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# ARIZONA STRIP WILDERNESS draft

## Environmental Impact Statement
## and
## Suitability Report

Paria Canyon
Primitive Area

Paiute Primitive Area

Vermillion Cliffs
Natural Area

MARCH 3, 1849

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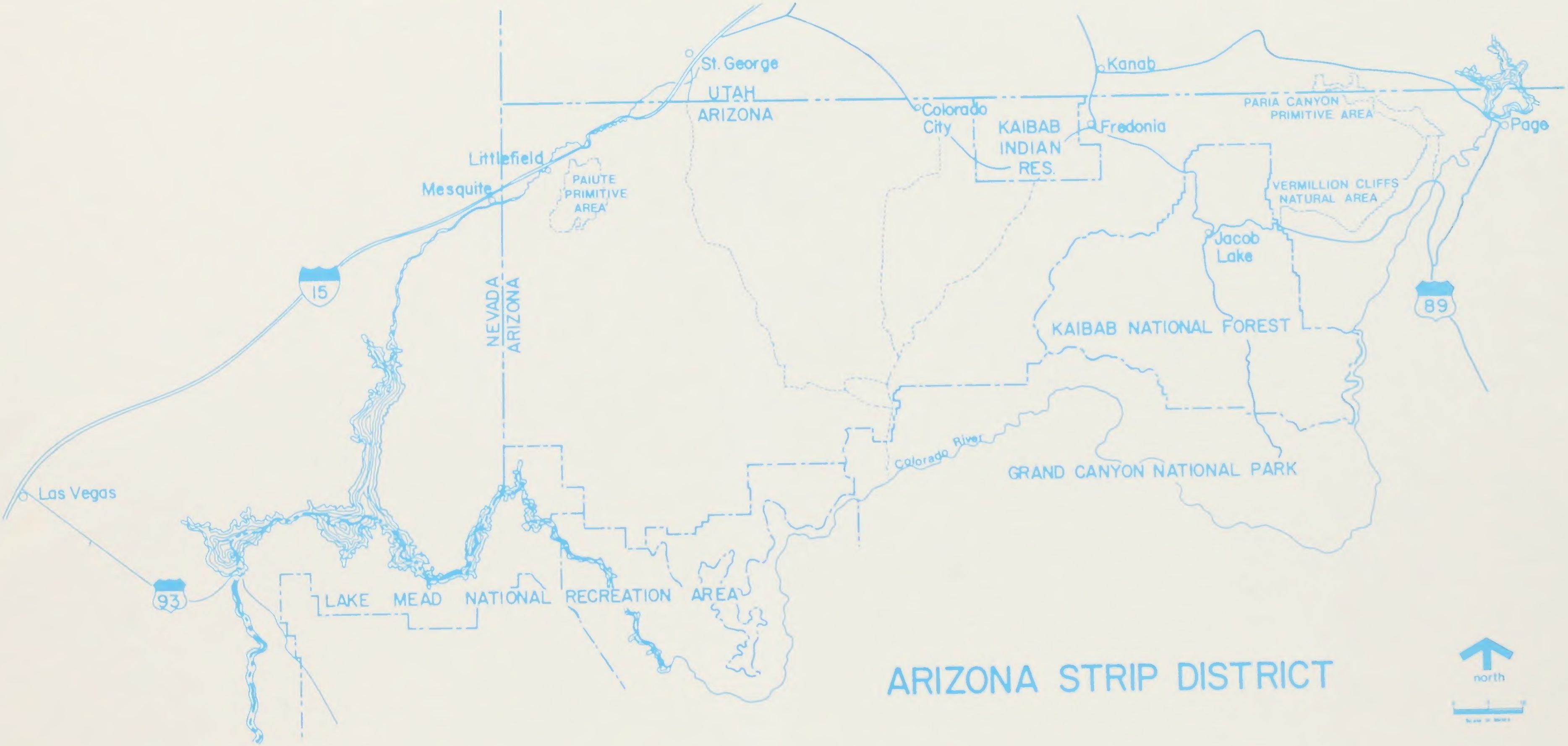
Prepared by
U.S. Department of the Interior
Bureau of Land Management
Arizona



# WILDERNESS E.I.S. LOCATION MAP

March 3, 1849

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE
2400 VALLEY BANK CENTER
PHOENIX, ARIZONA 85073

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Enclosed for your review and comment is the Draft Environmental Impact Statement and Suitability Report for the Proposed Wilderness Areas in the Arizona Strip District, Mohave and Coconino Counties, Arizona.

The environmental impact statement and suitability report are based on information from the Bureau of Land Management and other sources, including information supplied by and in consultation with Federal, State and local agencies, and interested private organizations and individuals. The purpose of the statement and report is to disclose in advance the probable environmental impacts of the proposed action and its alternatives, and to assure that these factors are considered, along with economic, technical, and other considerations, in the decisionmaking process.

We would appreciate receiving your comments on the environmental impact statement and suitability report. The comment period will run for 45 days after the draft is filed with the Environmental Protection Agency and the notice of receipt is published in the Federal Register. The notice is anticipated in April 1980. Public Hearings will be held in St. George, Salt Lake City and Kanab, Utah, and in Phoenix, Arizona. Details of the hearings will be advertised. Comments received after the 45 day review period will be considered in the subsequent decision even though they may be too late for inclusion in the final environmental impact statement.

Your comments should be sent to:

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Sincerely,

State Director

ID: 88063267

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DEPARTMENT OF THE INTERIOR

# ARIZONA STRIP WILDERNESS
# DRAFT
# ENVIRONMENTAL IMPACT STATEMENT
# and
# SUITABILITY REPORT

Prepared By

BUREAU OF LAND MANAGEMENT
DEPARTMENT OF THE INTERIOR

STATE DIRECTOR, ARIZONA STATE OFFICE

# ENVIRONMENTAL IMPACT STATEMENT

FOR

# ARIZONA STRIP WILDERNESS

# ARIZONA STRIP WILDERNESS

Draft (X) Final ( ) Environmental Impact Statement

Department of the Interior, Bureau of Land Management

1. Type of Action: Administrative ( ) Legislative (X)

2. Abstract: The Bureau of Land Management proposes the inclusion of Paria Canyon Primitive Area, Vermillion Cliffs Natural Area, and Paiute Primitive Area in the National Wilderness Preservation System. These three areas include 112,742 acres of public land in the Arizona Strip, Arizona and Cedar City, Utah Districts. The proposal would be implemented in three stages: interim management, designation as wilderness, and management as wilderness. The proposal should increase the protection of wildlife habitat but little affect vegetation, air quality, soils, and fire management and control. Wilderness designation would increase visitor use and further protect wilderness values while restricting mineral development and regulating livestock and wildlife developments. As visitor use approaches the carrying capacities in the Paria Canyon and Paiute areas, however, wilderness values may degrade. Banning of motorized vehicles in areas previously open to such use would eliminate ORV use and slightly restrict hunting and collecting.

3. Alternatives Analyzed:

1. Boundary adjustment
2. Contiguous lands
3. No action

4. Comments have been requested from the following:

See section 5.

5. For further information contact:

Dennis Carter, EIS Team Leader
Bureau of Land Management
Arizona Strip District Office
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6. Date draft statement made available to EPA and the public

April 1980

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# SUMMARY

# SUMMARY

## ALTERNATIVES INCLUDING THE PROPOSED ACTION

In response to the Federal Land Policy and Management Act's requirement that the Bureau of Land Management (BLM) review the wilderness potential of natural and primitive areas designated before November 1, 1975, BLM has conducted a wilderness intensive inventory (see appendix 2) and proposes to designate as wilderness Paria Canyon Primitive Area in Coconino County, Arizona and Kane County, Utah; Vermillion Cliffs Natural Area in Coconino County, Arizona; and Paiute Primitive Area in Mohave County, Arizona. Under this proposal BLM would continue management under existing plans, since these plans conform to guidelines for interim management of wilderness study areas.

BLM has also proposed three alternatives to the proposed action. Alternatives 1 and 2 would adjust boundaries to settle use conflicts, improve manageability, and eliminate areas lacking outstanding wilderness characteristics. Under alternative 1 the size of the proposed Paiute Wilderness would be slightly reduced. The proposed Paria Canyon Wilderness would be enlarged to include the northeast portion of Vermillion Cliffs Natural Area and also small areas of contiguous public land in Utah and Arizona. The part of the natural area not designated wilderness would keep its natural area designation.

Alternative 2 provides for the same boundary changes in the proposed Paiute Wilderness as does alternative 1 and the same addition to the proposed Paria Canyon Wilderness from the Vermillion Cliffs Natural Area. Alternative 2, however, would add to the proposed Paria Canyon Wilderness extensive contiguous public land in Arizona and Utah believed or found to have wilderness character. As under alternative 1, the Vermillion Cliffs acreage not designated wilderness would remain under natural area designation.

Alternative 3 (no action) calls for no changes from existing conditions except that the Paria Canyon and Paiute Primitive Areas would lose their primitive area designations. Management and protection of Paria Canyon would not change, but Paiute Primitive Area would return to multiple-use management with restricted ORV use.

The proposed action and alternatives 1 and 2 would be implemented in the same three stages: interim management, designation as wilderness, and management as wilderness.

## ENVIRONMENTAL CONSEQUENCES

Neither the proposed action nor the alternatives are expected to have significant impacts on climate, air quality, noise, topography, geology, soils, vegetation, forestry, and fire management and control. Animals would benefit from the increased habitat protected under alternatives 1 and 2. The proposed action and alternatives 1 and 2 would have the following impacts:

- Regulate the development of livestock and wildlife water resources to protect wilderness values in the areas.
- Further restrict the exploration for and production of minerals in the areas, although no minerals are now being produced.
- Increase vandalism to cultural resources by increasing visitor use. The banning of motorized vehicles would increase costs to mitigate adverse impacts and to protect cultural resources.
- Provide additional protection for scenery in Paiute Primitive Area and the Vermillion Cliffs Natural Area. Alternatives 1 and 2 would reclassify more land into Visual Resource Management Class I, restrict land changes, and increase the cost and effort required for construction of range projects.
- Benefit all wilderness resources by legislatively (thus more permanently) protecting areas with wilderness values. On the other hand, under the proposal once visitor carrying capacities are reached in the proposed Paria Canyon and Paiute Wilderness Areas, naturalness and the opportunity for solitude would diminish.
- Increase visitor use in Paria Canyon, which could increase vegetation destruction, erosion, soil compaction, fire rings, vandalism, litter and human waste, and fire potential. The proposed action and alternatives would not significantly change visitor use in the Vermillion Cliffs Natural Area and would only slightly increase visitor use in Paiute Primitive Area. Alternative 2 would considerably increase the area closed to ORVs, but this impact would be slight since little ORV use occurs in these areas. Decreased accessibility by motor vehicles would slightly reduce sightseeing and collecting.
- Hinder the development and maintenance of livestock waters in the Vermillion Cliffs Natural Area should such development impair wilderness and visual resources. Alternatives 2 and 3 may alter

livestock catchment development on Vermillion Cliffs and Home Ranch allotments and increase the expense of implementing proper livestock management.

- Might prevent the construction of additional utility rights-of-way next to existing powerlines crossing the upper end of Paria Canyon.

The proposed action and the alternatives would have no significant economic impacts on livestock grazing or mining nor would they adversely impact the social environment. Increased visitors, however, would benefit the local economy. By the year 2000 annual economic benefits under the proposed action and alternative 1 would increase by $99,400, and annual economic benefits under alternative 2 would increase by $128,400.

## MITIGATING MEASURES

BLM will develop routine management practices as necessary to mitigate environmental disturbances. Such mitigation might include monitoring resource impacts, limiting party size or season of use, banning open fires, designating campsites, and developing environmental education programs.

# SECTION 1

# ALTERNATIVES INCLUDING THE PROPOSED ACTION

# SECTION 1

# ALTERNATIVES INCLUDING THE PROPOSED ACTION

## INTRODUCTION

This draft environmental impact statement (draft EIS) describes the wilderness character of the Paiute and Paria Canyon Primitive Areas and the Vermillion Cliffs Natural Area and of 75,139 acres of contiguous public lands and analyzes the impacts of designating these areas to the National Wilderness Preservation System. The statement refers to these combined areas as *study areas.*

Paria Canyon and the Vermillion Cliffs have been internationally recognized for their scenery and recreational values. Designated by the Secretary of the Interior in January 1969, after public hearings and with widespread public support, Paria Canyon Primitive Area includes 27,515 acres of public land - 18,909 acres in Arizona and 8,606 acres in Utah. In this primitive area the Paria River winds through a deep canyon of colorful sandstone. The 50,135-acre Vermillion Cliffs Natural Area, also designated in January 1969, consists of brilliantly colored 3,000-foot high sandstone cliffs.

Designated in September 1975, Paiute Primitive Area has 35,092 acres of wild and rugged, geologically complex mountains, whose life zones range 5,600 feet in elevation from the Mohave Desert to coniferous forest atop the 8,000-foot high Virgin Mountains.

The variety of life zones in the study areas provides habitats for diversified wildlife species. The geology, topography, and vegetation provide great opportunities for primitive experiences and the enjoyment of natural beauty.

BLM encourages the public to enjoy these natural and primitive areas as long as the primitive environment is preserved. To protect and maintain natural and scenic values, BLM has developed recreation management plans for the Paria Canyon and Paiute Primitive Areas. BLM administers the Vermillion Cliffs Natural Area under the Vermillion Management Framework Plan (MFP), which also provides for the protection of outstanding natural and scenic values. These management documents are on file in the Arizona Strip District office in St. George, Utah, and their objectives are summarized in appendix 1.

Lands next to the study areas are in various stages of study. BLM has speeded up its intensive inventory of lands next to the Paiute Primitive Area. Early field studies of public lands next to the Vermillion Cliffs and Paria Canyon areas have found these areas to have wilderness character. Moreover, the Cedar City, Utah BLM District has cooperated with the Arizona Strip District in considering public lands next to the Paria Canyon Primitive Area in both Utah and Arizona.

## PURPOSE AND NEED

The Federal Land Policy and Management Act (FLPMA) directs the Secretary of the Interior to have BLM study all public lands under its jurisdiction for their wilderness potential. Section 603 (a) of FLPMA provides that BLM review the wilderness potential of its natural and primitive areas designated before November 1, 1975 (wilderness instant study areas), using guidance in section 2(c) of the Wilderness Act of 1964. The Secretary of the Interior must then make wilderness suitability recommendations on these instant study areas to the President by July 1, 1980, and the President must submit his recommendations to Congress within 2 years of receipt of this draft EIS and a suitability report. Congress, however, has no time limit for acting on the President's recommendation.

## DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### PROPOSED ACTION

BLM proposes to designate as wilderness Paria Canyon Primitive Area in Coconino County, Arizona and Kane County, Utah; Vermillion Cliffs Natural Area in Coconino County, Arizona; and Paiute Primitive Area in Mohave County, Arizona. The proposed action complies with section 603(a), FLPMA, which requires that the Secretary of the Interior report to the President by July 1, 1980 his recommendations on areas that the Secretary formally identified as natural or primitive areas before November 1, 1975. Only those lands within the present boundaries of the above areas are included in the proposed action.

The proposal would be implemented in three stages: interim management, designation as wilderness, and management as wilderness. During interim management and after designation, BLM would continue to use the approved management plans, since their guidelines and policies conform to the guidelines for interim management of wilderness study areas and requirements of section 4 of the Wilderness Act. (Refer to Paria Canyon and Paiute Management Plan Summaries, appendix 1, for specific management objectives.)

## ALTERNATIVE 1 - BOUNDARY ADJUSTMENT ALTERNATIVE

As part of the wilderness review process required by FLPMA, BLM inventoried Paria Canyon and Paiute Primitive Areas and Vermillion Cliffs Natural Area and incorporated these inventories into existing land use plans. These plans provide guidance for public land management in the Arizona Strip. They also identify boundary changes needed to settle use conflicts, to improve manageability, and to remove from wilderness consideration areas lacking outstanding wilderness characteristics.

Alternative 1 would designate 34,922 acres as the Paiute Wilderness Area. The existing primitive area boundary would be changed to exclude a bulldozer trail, mine shaft, and tailings pile on Mt. Bangs but to include all of Sullivans Canyon along its east rim to the road to Mountain Sheep Spring (see plate 1).

The proposed Paria Canyon Wilderness Area would be enlarged to 59,744 acres, including 22,285 acres in the northeast portion of Vermillion Cliffs Natural Area. Included would be contiguous lands appearing to have wilderness character in Arizona, contiguous lands with wilderness character in Utah, and all of the Paria Canyon Primitive Area lying below the upper rim of the canyon. The part of the Vermillion Cliffs Natural Area not designated as wilderness would keep its natural area status to protect outstanding scenic qualities.

BLM would implement alternative 1 in the same three stages as the proposed action: interim management, designation as wilderness, and management as wilderness.

## ALTERNATIVE 2 - CONTIGUOUS LANDS ALTERNATIVE

Alternative 2 would designate Paiute Primitive Area as wilderness with the same boundary changes proposed under alternative 1.

Alternative 2 would also designate 124,709 acres as the Paria Canyon Wilderness Area, including the existing Paria Canyon Primitive Area, 22,285 acres of the Vermillion Cliffs Natural Area, 61,965 additional acres of public lands appearing to have wilderness character in Arizona, and 12,944 acres of contiguous public lands with wilderness character in Utah. The remaining acreage of the Vermillion Cliffs Natural Area not included in the wilderness designation would remain under natural area status.

Lands contiguous to Paria Canyon in Arizona that are proposed for wilderness status represent only part of the total contiguous roadless acres. From preliminary findings, only 61,965 contiguous acres in Arizona appear to meet the wilderness requirement of naturalness. The remaining acres appear to have human intrusions (plate 1), which BLM is inventorying for significance. The cumulative effects of these intrusions may degrade the overall naturalness of these areas.

Alternative 2 would be implemented in three stages: interim management, designation as wilderness, and management as wilderness. Designation of these areas would be permanent, subject only to change by Congress.

## ALTERNATIVE 3 - NO ACTION

The no-action alternative would continue the administration of the Paiute and Paria Canyon Primitive Areas and Vermillion Cliffs Natural Area under existing management plans. It would preserve the values recognized under the present designations. Under no action the condition of the study areas is not expected to change.

# INTERRELATIONSHIPS

## NAVAJO LAND APPLICATION

Through Public Law 93-531 the Navajo Indian Nation has a pending application to purchase public land in the House Rock Valley and Paria Plateau. Should this sale be approved 250,000 acres of public land would be removed from BLM administration. The application area includes lands proposed for wilderness designation under the proposed action and alternatives 1 and 2 within Paria Canyon Primitive Area and the Vermillion Cliffs Natural Area. The following table shows the acreage involved in the Navajo application.

## PROPOSED WILDERNESS ACREAGE INVOLVED IN NAVAJO APPLICATION

| | Paria Canyon | Vermillion Cliffs | |
|---|---|---|---|
| | Wilderness Status | Wilderness Status | Natural Area Status |
| Proposed Action | 0 | 13,750 | 0 |
| Alternative 1 | 4,275 | 4,660 | 9,090 |
| Alternative 2 | 60,950 | 0 | 13,050 |

# SECTION 2

# SCOPING

# SECTION 2

# SCOPING

## BACKGROUND AND NEED FOR SCOPING

Final regulations implementing the National Environmental Policy Act (NEPA) part 1500 provide for an early and open process to determine the scope of issues to be addressed and to identify the significant issues related to a proposed action. The regulations direct this process be termed *scoping* and that as soon as possible after the decision to prepare a draft EIS, the lead agency publish a notice of intent in the Federal Register.

The regulations further direct that the lead agency invite the participation of affected Federal, State, and local agencies and interested persons, including those opposing the action on environmental grounds.

The regulations are designed to determine in depth the scope and the significant issues to be analyzed in the draft EIS and to identify and eliminate from detailed study insignificant issues or those addressed in earlier environmental review.

Information gained through scoping is then integrated with materials produced by resource specialists making the environmental analysis. Scoping thus reduces the length of the draft EIS and emphasizes real alternatives.

The scoping process for Arizona Strip Wilderness involved several phases:

- Discussions with BLM resource specialists and managers,
- Field interviews with individuals and agency representatives of Indian tribes and interest groups,
- Four wilderness open house and scoping meetings (Phoenix, Flagstaff, Page, and St. George) in June 1979,
- Written comments responding to news releases, direct mailings, and articles about the scoping meetings,
- Federal Register notices, and
- Letters to tribal leaders.

## RESULTS OF PUBLIC MEETINGS

To summarize material developed by the several work groups, BLM placed each impact or issue in a category of similar items. During the development of this draft EIS BLM has considered major areas of public interest and concern identified through scoping. BLM then used this analysis to determine which concerns would be significantly impacted by the proposed action or alternatives.

The scoping meetings, attended by 64 people at four sites, identified 10 categories of impacts or areas of concern:

1. Access
    A. Control of vehicular access.
    B. Development of access routes within the study areas.
2. Mining
    A. Future status of mining in the study areas.
    B. Impacts of mining on wilderness values.
3. Range Management
    a. Impact of designation on existing privileges and future improvements.
    B. Impacts of grazing on wilderness values.
4. Air Quality and Audio-Visual Resources
    A. Potential changes in air quality classification.
    B. Audio and visual impacts from highways near the study areas.
5. Recreation
    A. Ability of the general public to use the area.
    B. Visitor impacts on the study areas.
6. Plants and Animals
    A. Preservation of threatened and endangered plants and their habitat.
    B. Impacts on wildlife and plants in general.
7. Development
    A. Cost of implementing a wilderness designation.
    B. Impact of nearby projects on the primitive area.
8. Management
    A. Control of user pressures and conflicts.
    B. Changing boundaries for improved manageability.
    C. Fire management policies.
9. State Lands
    Concern for State inholdings and contiguous State lands having wilderness character (Paria Canyon and Vermillion Cliffs).

10. Navajo Land Selection (for more detail see Interrelationships in section 1).
    - A. Impacts on wilderness values in the study areas (Paria Canyon and Vermillion Cliffs) resulting from accepting the Navajo application.
    - B. Access to the Dominguez-Escalante and Honeymoon Trails and general access to the Vermillion Cliffs if the Navajo application is accepted.

BLM resource specialists added other areas of concern:

11. Protection of archaeological and historical resources.
12. Compatibility of proposals with land use planning.

## WRITTEN COMMENTS

BLM has received 54 written comments on the study areas. Several of the comments were detailed and specific; others simply favored or opposed wilderness designation. Each comment has been included in the draft EIS record and has been fully considered in the preparation of this draft EIS.

# SECTION 3

# AFFECTED ENVIRONMENT

# SECTION 3

# AFFECTED ENVIRONMENT

# SECTION 3

# AFFECTED ENVIRONMENT

## CLIMATE

### PARIA CANYON-VERMILLION CLIFFS

The Paria Canyon-Vermillion Cliffs area is located in a desert region of long, hot summers, mild winters, low annual rainfall, low relative humidity, and a high percentage of sunny days.

Annual precipitation highly fluctuates, averaging 6 inches in Paria Canyon and at the base of the Vermillion Cliffs and ranging from 12 to 14 inches on the Paria Plateau. Periodic droughts are common. Intense thunderstorms from July to September occasionally send flash floods through the Paria River Canyon. Winter precipitation occurs as gentle rain or light snowfall.

Clear skies and a dry atmosphere cause surface heating during the day and rapid radiational cooling at night. Summer daytime temperatures commonly exceed 100° F., and winter maximum temperatures range from 50-60° F. Lees Ferry, Arizona has an average annual frost-free period of 227 days.

### PAIUTE PRIMITIVE AREA

A wide elevation range in Paiute Primitive Area causes the climate to vary greatly. The lower portions have long, hot summers, mild winters, and low rainfall. The higher mountain peaks are cooler and have more than twice the rainfall of the lower areas.

Average annual precipitation ranges from 6 to 16 inches, depending on elevation. Precipitation occurs as intense thunderstorms during July, August, and September and as winter rain and snow. Steep canyons are subject to flash flooding during summer storms. Snow may accumulate up to 6 or 7 feet at higher elevations.

Clear skies and a dry atmosphere prevail. During summer maximum daily temperatures exceed 100° F. at the lower elevations, but mountain areas rarely exceed 80° F. Winter temperatures drop below freezing most nights even at lower elevations. On higher mountain areas, 0 to 10° F. temperatures are common. Annual frost-free periods range from 120 days at higher elevations to over 200 days at lower elevations.

## AIR QUALITY

Relatively isolated from major sources of pollution, the study areas have air quality ranging from very good to excellent. Air pollutants have not been measured directly in the areas but have been monitored from stations in Page, Arizona, 15 miles northeast of the Paria Canyon-Vermillion Cliffs area, and at Warner Valley, Utah, 25 miles northeast of Paiute Primitive Area. Prevailing winds in the study areas are typically southwesterly and convectional in summer and westerly and frontal in winter. Air quality of the study areas falls within the Class II category of the Clean Air Act of 1977.

### PARIA CANYON-VERMILLION CLIFFS

Although Paria Canyon and the Vermillion Cliffs lie upwind from the large coal-generated power plant in Page, occasionally pollutants from this plant carry into the study areas. Other sources of air pollution include blowing dust and traffic on US Highway 89A to the south and east.

### PAIUTE PRIMITIVE AREA

During winter, westerly air flows carry man-made pollutants into Paiute Primitive Area from Las Vegas, Nevada—85 miles to the southwest—and from the power plant near Glendale, Nevada—55 miles to the southwest. In the warmer months, nightly, upslope air flows carry motor vehicle emissions from Interstate 15 into the area, and afternoon, downslope air flows flush the pollutants into the Virgin River Gorge. Smoke from controlled and uncontrolled fires occasionally reduces the air quality in the primitive area.

## NOISE

The Arizona Department of Transportation estimates that an average of 990 vehicles daily use US 89A (Tenny, 1979). This road follows the south boundary of the Vermillion Cliffs, where traffic sounds can easily be heard. Paria Canyon and Paiute Primitive areas are more remote, and only an occasional aircraft interrupts the natural sounds of winds, insects, birds, animals, and flowing water.

## TOPOGRAPHY AND GEOLOGY

### PARIA CANYON-VERMILLION CLIFFS

Paria Canyon and the Vermillion Cliffs lie in the Colorado Plateau physiographic province. In Paria Canyon the Paria River has cut through the massive Navajo sandstone to form a labyrinth of caves, stairwells, and natural arches. In the canyon narrowly spaced walls rise hundreds of feet to the plateau above.

To the southwest, the Vermillion Cliffs rise as a spectacular escarpment capped with sandstone underlain by multicolored, actively eroding, severely dissected layers of shale and sandstone interbedded with layers of gypsum. From House Rock Valley at the base of the cliffs to the Paria Plateau above, the relief is greater than 3,000 feet.

Consolidated rocks of Paria Canyon and the Vermillion Cliffs form a sedimentary section 6,500 feet thick, deposited during the Paleozoic and Mesozoic eras of geologic time (620 to 70 million years ago). The walls of Paria Canyon and the Vermillion Cliffs are of Mesozoic age (135 to 230 million years ago), their sediments being deposited during the age of the dinosaurs.

The primary feature builder in the area, the Navajo sandstone, was originally deposited as dunes nearly 2,000 feet thick. The eroded sculptures in this majestic horizon and the underlying picturesque display of redbeds create unique and awe-inspiring scenery.

### PAIUTE PRIMITIVE AREA

Paiute Primitive Area lies on the eastern edge of the Basin and Range physiographic province next to the Colorado Plateau province. Maximum topographic relief is 5,600 feet, Mt. Bangs being the highest point at 8,012 feet. Relief is much greater on the western flank than to the east. On the western flank overlooking the Virgin River, slopes of 40° and cliffs are common. On the eastern flank, slopes average 15° to 20° (Moore, 1972).

Rocks ranging in age from Precambrian (over 620 million years ago) to Tertiary (70 million years ago) lie exposed within the Paiute Primitive Area. The predominate rock type is Precambrian granite gneiss, schist, and related metamorphic rocks. The northern and eastern portions of the primitive area are overlain largely by limestones, dolomites, and sandstones of Paleozoic age (over 230 million years old). Some of these rocks along the eastern boundary are of Triassic origin (200 million years old). Basalt flows of Tertiary age (13 to 63 million years old) form the canyon rim and plateau along the eastern edge of Sullivans Canyon.

## MINERALS

The following minerals information has been compiled from research in the areas. This information has been bolstered by coordination and communication with field personnel of both the Bureau of Mines and the U.S. Geological Survey.

### PARIA CANYON-VERMILLION CLIFFS

Minerals considered to have some potential for development in Paria Canyon and the Vermillion Cliffs area include uranium, vanadium, and copper. Features and conditions conducive to oil and gas accumulation also occur in the area.

An estimated 60 to 75 percent of the outcrops of the lower Chinle formation (including the Shinarump conglomerate member) were covered by lode claims in the study areas during the uranium boom of 1953-1958. Although much exploration led to little success, several prospects did show some promise. The Sun Valley Mine in Sec. 6, T.38N., R.6E., and the El Pequito Mine in Sec. 14, T.40N., R.7E. shipped uranium ore during the mid 1950s. Exploratory drilling by the Sun Valley Mine has found significant proven ore reserves.

The Lehneer and Sam Prospects and the Sun Valley and El Pequito Mines show mineralization and geologic conditions normally favorable to mineral enrichment. The known uranium mineralization in this area indicates that commercial deposits could exist.

No tests for oil and gas have been drilled in the area. Oil, however, is being produced 45 to 50 miles to the north in the Upper Valley area of Utah, where the character of rock formations is comparable to that believed to exist in the Paria and Vermillion areas. Several other tests in the surrounding area have found oil.

The U.S. Geological Survey and the Bureau of Mines have conducted a mineral survey of the study areas. When released, this report will be on file in the Arizona Strip District office.

### PAIUTE PRIMITIVE AREA

The general mineral evaluation for the Paiute Primitive Area indicates several localized areas with some above-normal mineralization. None of these deposits, however, would presently support an economical mining operation.

The following minerals in the area show some potential:

| | |
|---|---|
| **Beryllium** | Limited beryllium mineralization associated with a trace of copper is present and has undergone some exploration near Mt. Bangs and in Hedricks Canyon. |
| **Copper** | Some localized areas of copper enrichment occur within this primitive area. Geochemical analysis has confirmed the existence of some copper mineralization, especially in Sullivans, Hedricks, and Hancock Canyons. Some silver association is common, but gold is usually absent. A copper enrichment zone about 1.5 miles below Gates-Mullen Spring in Sullivans Canyon shows considerable leaching of iron oxides from the Supai formation. Other features of this type have produced considerable copper and uranium in this part of Arizona. This prospect shows features that would normally justify additional exploration. |
| **Iron and Lead** | Zones of mineralization with some concentration of lead and iron occur along the southeastern edge of the primitive area. Some claims just outside the boundary have been explored, but no volume of ore is known to have been located. |
| **Tungsten** | Tungsten is known to occur as the mineral scheelite near Mt. Bangs and near the mouth of Hancock Canyon. It is generally associated with pegmatite dikes. Mining claims exist on these areas, and some prospecting has occurred. |

# SOILS

## PARIA CANYON-VERMILLION CLIFFS

The soils of the Paria Canyon-Vermillion Cliffs area are poorly developed and sandy. On the plateau above the canyon they consist of a yellowish red, fine sand up to about 36 inches deep, intermixed with sandstone bedrock. These sands are underlain by a sandstone outcrop that forms the spectacular walls of upper Paria Canyon and the upper segment of the Vermillion Cliffs. Below the sandstone, the escarpment dominantly consists of multicolored shale and siltstone giving way to colluvial slopes and alluvial fans.

The soils on the alluvial fans are deep and moderately deep, mainly reddish brown with textures ranging from fine sand to silty clay loam. In places these soils are gravelly, cobbly, or stony. The alluvial soils at the lower end of Paria Canyon generally exceed 60 inches in depth, have a fine sand texture throughout the profile, and are yellowish red. Most of the soils in this area have a moderately rapid to rapid permeability, a low water-holding capacity, low fertility, and a high susceptibility to wind and water erosion.

## PAIUTE PRIMITIVE AREA

The soils on the higher mountains of the Paiute Primitive Area consist of dark grayish brown gravelly sandy loam, 4 to 20 inches thick over weathered granite bedrock. The lower mountains have grayish brown very gravelly and cobbly loam soils, 6 to 20 inches thick over limestone. Rock outcrop constitutes major portions of the soils in the steeper mountain areas.

The east rim of Sullivans Canyon has grayish brown, loam and clay loam soils over basalt bedrock at depths of 10 to 36 inches. Some areas are cobbly and stony.

On the alluvial fans along the west side of the area the soils are pale brown gravelly and cobbly loams.

Permeability is dominantly moderate to moderately rapid, fertility and water holding capacity are low to moderate, and these soils are moderately susceptible to water erosion.

# WATER RESOURCES

## PARIA CANYON

The Paria River, the primary drainage for Paria Canyon, is intermittent in sections from near the Utah-Arizona State line north to Adairville. During much of the year the Paria is turbid, having large amount of suspended sediment. Its perennial flow from the State line to its confluence with the Colorado River is maintained by springs discharging from the Navajo sandstone. These springs release 5 to 7 cubic feet per second of water of excellent chemical quality. Hikers use several of these springs.

## VERMILLION CLIFFS

The surface water runoff from this area is entirely ephemeral, drainage channels originating along walls of the Vermillion Cliffs. Several springs of excellent quality water flow at the base of the Navajo sandstone about halfway up the Vermillion Cliffs. These contact springs are generally small, but the combined production of some drainages may be as high as 25 gallons per minute.

Most of the better quality springs have been developed for livestock and domestic use.

## PAIUTE PRIMITIVE AREA

The Paiute Primitive Area has no perennial streams. The area's most significant drainage is Sullivans Canyon, which runs into the Virgin River Gorge on the north. This canyon has ephemeral flow only during heavy rainfall.

Several small springs occur within the primitive area. Most major canyons draining the west face of the Virgin Mountains—Hancock, Boulder, Frehner, and Hedricks—have springs with a flow of less than 2 gallons per minute. Total dissolved solids of these waters are commonly less than 600 milligrams per liter, a relatively good chemical quality.

Sullivans Canyon has few springs for a large watershed. These springs range in production from a seep to a maximum of about 8 gallons per minute with a mineral content ranging from 100 to 1,000 milligrams per liter.

# VEGETATION

## PARIA CANYON

The vegetation of Paria Canyon is typical of the arid semi-desert climate. The areas of heavier clay soils support sparse stands of sand dropseed, shadscale brush, and prickly pear cactus. Areas of looser sandy soils support fair stands of Indian ricegrass mixed with buckwheat, rabbitbrush, and fourwing saltbush. Saltcedar, greasewood, willows, and Russian thistle line the river channel. Sand dropseed and rabbitbrush grow on the once cultivated flats near Lees Ferry and pinyon-juniper and occasionally ponderosa pine dominate the canyon rims.

Along the Paria River where there is moisture, cottonwood, willow, and box elder grow on the narrow sand bars. The lower vegetation includes many forbs and Indian ricegrass, with scattered clumps of wild rye, little bluestem, sideoats grama, and an occasional cactus. The lower benches have a good understory of the aforementioned grasses with shrub live oak, cliffrose, Apache plume, and ephedra.

The vegetation of side canyons with water differs from vegetation in other parts of Paria Canyon, being similar to that of high mountain wet meadows. Grasses such as orchard grass, spike red top, giant wild rye, and numerous forbs and mosses are found here. Willows from 16 to 36 inches in diameter occur, as do mountain ash, box elder, serviceberry, and shrub live oak.

Little vegetation grows in Buckskin Gulch due to periodic flooding. Existing vegetation types are the same as those found in the main canyon.

## VERMILLION CLIFFS

The western portion of the natural area has typical desert grassland vegetation, consisting mostly of sand dropseed, galleta, and Indian ricegrass. To the east the grassland fades into sand sagebrush. In places, the southern edge of the sandsage subtype is fringed with shadscale and fourwing saltbush. The grassland and sandsage are both interrupted by the abrupt Vermillion Cliffs. The thrusted cliffs are crowned with the pinyon and juniper in a most begrudging and sparing manner, but it is the best the desert can husband in its arid glory.

## PAIUTE PRIMITIVE AREA

Paiute Primitive Area has a diversity of vegetation. Several thousand acres in the southern half of Paiute Primitive Area have been burned and are covered with manzanita, scattered pinyon and juniper, and scrub oak thickets. The ridge top, which has not burned, has a moderate stand of ponderosa pine, and the steep unburned western slopes have thick stands of pinyon pine, juniper, oak, and brush. The northern half consists mainly of pinyon and juniper. The lower portions of Paiute Primitive Area are covered with desert shrub vegetation, including blackbrush, creosotebush, ephedra, Joshua trees, and bursage.

## THREATENED, ENDANGERED, AND SENSITIVE PLANTS

Table 3-1 lists plants found on the Arizona Strip that have been recommended for inclusion on the threatened, endangered, and sensitive species list.

# FORESTRY

Ponderosa pine forests occur above 6,500 feet in the Paiute Primitive Area, containing the only remaining old growth stands in the Shivwits Resource Area. In addition, a small and rare stand of white fir grows on the west slope of Mt. Bangs. This island of productive forest is inaccessible to commercial harvest operations because no roads exist to support log truck traffic.

A small but potentially serious infection of southwestern dwarf mistletoe is threatening the ponderosa pine stands north of Mt. Bangs.

Pinyon-juniper stands occur at elevations from 5,000 to 6,500 feet. These stands, however, are relatively inaccessible and receive little use.

# ANIMALS

The study areas provide a variety of habitats, which support an equally varied number of animals. Sheer

## TABLE 3-1
## THREATENED, ENDANGERED, AND SENSITIVE PLANTS

| Status | Species | Common Name |
|---|---|---|
| **PARIA CANYON** | | |
| S | Amsonia palmeri* | Amsonia |
| S | Astragalus episcopus | Astragalus |
| S | Astragalus striatiflorus | Astragalus |
| S | Camissonia exilis | Camissonia |
| S | Nama retrorsum | Nama |
| S | Primula specuicola | Primrose |
| **VERMILLION CLIFFS** | | |
| S | Amsonia palmeri* | Amsonia |
| S | Astragalus episcopus | Astragalus |
| S | Astragalus lancearius** | Astragalus |
| S | Astragalus striatiflorus | Astragalus |
| S | Camissonia exilis | Camissonia |
| S | Eriogonum zionis var. zionis | Buckwheat |
| E | Pediocactus bradyi | Brady pincushion |
| S | Sclerocactus pubispinus | Sclerocactus |
| S | Sclerocactus spinosior | Sclerocactus |
| **VIRGIN MOUNTAINS** | | |
| S | Agave utahensis var. kaibabensis | Desert Candlestick |
| S | Balsamorhiza hookeri | Hooker's balsamroot |
| S | Eriogonum heermanii var. subracemosum | Buckwheat |
| S | Penstemon petiolatus | Penstemon |
| S | Townsendia smithii | Townsendia |

S = Sensitive plants (see glossary for definition).
E = Endangered plants (see glossary for definition).
*Reported near Lees Ferry but not located by BLM botanist in past 3 years.
**Species identification is questioned.

Note: Threatened, endangered, and sensitive plant lists are being revised, and changes may be made as new information becomes available.

ruggedness of terrain has protected the Paria Canyon, Vermillion Cliffs, and Paiute areas from extensive development, but man's influence has been felt.

### PARIA CANYON

Steep canyon walls, cliffs, and the Paria River are the main habitat types of Paria Canyon. Vegetation includes cottonwoods and willows along the river, grading into blackbrush, sagebrush, and pinyon-juniper on the upper sandy benches. Forty-nine mammal species, 49 amphibian and reptile species, and 172 bird species inhabit Paria Canyon.

The riparian habitat supports the primitive area's most diverse animal population, including the following bird species: Lucy's and Audubon's warblers, ash-throated flycatchers, and Say's Phoebes.

The Paria River provides habitat for the following fish: bluehead, mountain sucker, speckled dace, and flannel mouth sucker. The woundfin minnow, an endangered species, was introduced into the Paria River but failed to become established (Cross, 1975).

### VERMILLION CLIFFS

The Vermillion Cliffs provide outstanding cliff nesting sites for raptors. In addition, the springs in some canyons—such as Badger and Soap Creek Canyons—are important water sources for wildlife. The Vermillion Cliffs Natural Area provides habitat for the following number of species: 145 birds, 46 mammals, and 39 amphibians and reptiles.

### PAIUTE PRIMITIVE AREA

Paiute Primitive Area has 48 species of mammals, 41 species of amphibians and reptiles, and 172 species of birds. Vegetation at higher elevations includes ponderosa pine, Gambel oak, and even a small stand of white fir, which provide summer range for mule deer. The side slopes of the Virgin Mountains are dissected by numerous steep canyons, which provide prime bighorn sheep habitat. Pinyon and juniper dominate the upper areas, and desert shrub and creosotebush dominate lower slopes. Springs and seeps occur in many canyon bottoms. The wet meadow and cottonwood-willow environments associated with the springs, although small, provide important habitat. Cooper's hawks typically nest in these areas, and other animals are also attracted by water and food. Desert tortoise inhabit the area's lower slopes and canyon bottoms.

In November 1979 desert bighorn sheep were transplanted to their historic range in the Virgin Mountains. The initial transplant of 12 animals is being maintained within a 700-acre enclosure as a breed nucleus. As the population increases, bighorn will be periodically released until they are established.

### THREATENED AND ENDANGERED ANIMALS

All three study areas provide important habitat for the species listed in table 3-2. If bighorn sheep can be reestablished or if peregrine falcons return, the Vermillion Cliffs could potentially become a significant habitat for these threatened and endangered species.

## CULTURAL RESOURCES

### PARIA CANYON

An archaeological survey of Paria Canyon in 1967 identified nine prehistoric sites assigned to the Archaic (hunting and gathering: 6500 B.C. - 100 A.D.) through late Pueblo (agricultural: 100-1200 A.D.) cultures. Several other prehistoric and historic sites are now known. Some places or plants in the canyon may be sacred to the Kaibab Paiutes since the canyon is part of their traditional homeland. Management of sites in the Paria Canyon is limited to conservation and preservation uses.

### VERMILLION CLIFFS

No archaeological surveys have been conducted along the base of the Vermillion Cliffs, but a few known sites have been discovered during range improvement actions. The 1968 Paria Plateau Survey discovered several sites along the rim of the cliffs, which are included in the Paria Plateau Archaeological District nomination to the National Register of Historic Places (NRHP). The Honeymoon Trail (Old Arizona Road), whose eligibility for the NRHP has been determined, and the Dominguez-Escalante Trail pass through the natural area. In addition, research has revealed four sites at the base of the cliffs that may have NRHP potential. These sites are associated with the Honeymoon Trail and with grazing and mining in House Rock Valley. As the traditional homeland of the Paiute Indians, this area has a high potential for sacred sites.

Management uses of these sites include scientific, educational, conservation, and preservation activities.

### PAIUTE PRIMITIVE AREA

Although no archaelogical survey has been conducted for the entire primitive area, portions of the area

## TABLE 3-2
## THREATENED AND ENDANGERED ANIMALS

| Common Name | Scientific Name | Location | Status* |
|---|---|---|---|
| **Birds** | | | |
| Peregrine falcon | *Falco peregrinus anatum* | Paria<br>Paiute | F, S, Group II |
| Snowy egret | *Egretta thula brewsteri* | Paria | S Group III |
| Black-crowned night heron | *Nycticorax nycticorax hoactli* | Paria | S Group III |
| **Mammals** | | | |
| Desert bighorn sheep | *Ovis canadensis mexicana* | Paiute | S Group III |
| Spotted bat | *Euderma maculata* | Paria<br>Paiute<br>Vermillion | S Group III |
| **Fishes** | | | |
| Razorback sucker | *Xyrauchen texanus* | Paria | S Group II** |
| **Reptiles** | | | |
| Desert tortoise | *Gopherus agassizi* | Paiute | S Group III |
| Gila monster | *Heloderma suspectum* | Paiute | S Group III |

*Status: F = Occurs on Federal Endangered or Threatened list.

S = Occurs on Arizona Threatened Wildlife list.

Group II = Endangered--Species or subspecies in danger of being eliminated.

Group III = Threatened--Species or subspecies whose status may be in jeopardy in the foreseeable future.

**Proposed for Federal listing.

have been surveyed as part of various management projects. The area has been used by the Paleo-Indian, Archaic, Pueblo, and Paiute cultures. It also has had an extensive exploration, grazing, homesteading, mining, and forestry history dating from the early 1800s. Several prehistoric and historic sites are known, giving the area the potential for a medium site density. Some of the historical sites may have potential for nomination to the NRHP. Having been used by the Paiutes, the primitive area also has a potential for sacred sites, plants, and animals.

## LANDSCAPE CHARACTER

### PARIA CANYON

In Paria Canyon Primitive Area, two winding water courses—Buckskin Wash and the Paria River—have scoured twisting labyrinths of sandstone to form narrow canyons over 1,000 feet deep. In places, Buckskin Gulch is less than 2 feet wide, and the undulating, near-vertical walls block one's skyward view. Paria Canyon is wider than Buckskin Gulch and contains numerous springs and primitive camping sites for hikers. Jagged rock outcrops, sheer cliffs, and varied geologic formations characterize the primitive nature of the area. A few imprints of man—a corral, the crossing of a 500—KV powerline, and the remains of an old water station—can be seen from within the canyon. Above the canyon, vehicle trails used for hunting, collecting firewood, and sightseeing run along the rim. These imprints are not substantially noticeable and are widely dispersed.

### VERMILLION CLIFFS

The towering Vermillion Cliffs stretch skyward for 3,000 feet to dwarf the red sand plains below. The deep red escarpment extends for nearly 30 miles from House Rock on the west to Marble Canyon on the east. Although the Vermillion Cliffs retain much of their primeval character, several minor visual intrusions exist. Found primarily in the western part of the natural area, these intrusions include 5 miles of dirt roadways and a few facilities associated with water developments, ranching, and mining.

### PAIUTE PRIMITIVE AREA

One hundred miles west of the Vermillion Cliffs and Paria Canyon lies Paiute Primitive Area. The Virgin Mountains, forming the backbone of the primitive area, are also its prominent feature. The limestone-granite, pinyon- and juniper-covered ridges form deep canyons that extend to the desert-shrub valley below. Mt. Bangs is a rugged granite mountain in the southern portion of the area, having the most noticeable landscape modifications. The east slope contains mining access routes and road scars that dominate the views from this area. Other roads and trails in the primitive area have been abandoned and are returning to a natural state.

## VISUAL RESOURCES

BLM has devised a system to inventory and manage the visual resources of public lands. The Visual Resource Management (VRM) system provides guidelines for reducing unwanted visual effects of existing and proposed projects. BLM has inventoried areas discussed in this draft EIS, assigning them to one of four VRM classes:

| | |
|---|---|
| **Class I** - | Provides primarily for natural ecological changes. |
| **Class II** - | Changes in any of the basic elements (form, line, color, texture) should not be evident. |
| **Class III** - | Changes in the basic elements may be evident but should remain subordinate. |
| **Class IV** - | Changes may subordinate the original composition but must reflect a natural occurrence. |

## WIILDERNESS

Using the procedures outlined in step 4 of the BLM Wilderness Inventory Handbook (BLM, 1978), BLM wilderness review teams intensively inventoried the Paria Canyon, Vermillion Cliffs, and Paiute Wilderness Instant Study Areas. Intensive inventories determined that these study areas meet the wilderness criteria established in section 2(c) of the Wilderness Act of 1964, which states:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and(4) may also contain ecological, geological, or other featues of scientific, educational, scenic, or historical value.

The Arizona Strip and Cedar City Districts will incorporate wilderness information into their district land use plans.

An inventory of public land next to Paiute Primitive Area found that two wilderness inventory units containing 14,390 acres have enough wilderness qualities to be proposed as wilderness study areas.

A total of 12,944 acres of public land next to Paria Canyon Primitive Area in Utah was also found to have wilderness character. Public land next to Paria Canyon Primitive Area in Arizona has not undergone intensive inventory, but field examination shows that two wilderness inventory units have enough wilderness character for further wilderness review. These two units contain 152,087 acres. One lies next to both Paria Canyon Primitive Area and Vermillion Cliffs Natural Area. The other borders Paria Canyon Primitive Area and public lands in Utah. By October 1980 BLM will decide what land will undergo further wilderness study.

Intensive inventories for the three instant study areas are included as appendix 2.

# LAND USE

## RECREATION

### Paria Canyon

The Paria Canyon study area includes Paria Canyon, a portion of the Paria Plateau contiguous to the canyon, and a portion of West Clark Bench. In Utah, 12,944 contiguous acres were found to possess wilderness values, and 61,965 acres of roadless lands contiguous to Paria Canyon Primitive Area in Arizona appear to contain wilderness characteristics as determined through the wilderness initial inventory. An intensive inventory has not been completed for this acreage.

#### Existing Designations

Approximately 27,515 acres of Paria Canyon (18,909 acres in Arizona and 8,606 acres in Utah) were designated as the Paria Canyon Primitive Area by the Secretary of the Interior on January 15, 1969. This designation segregated the primitive area from sale, exchange, mining entry, R.S. 2477 rights-of-way, and agricultural entry. The primitive area designation has closed Paria Canyon to off-road vehicle (ORV) use as stated in ORV regulations (Federal Register Vol. 44, No. 117, June 15, 1979).

#### Recreation Uses

Specialists evaluated recreation activities likely to occur in Paria Canyon and on the Paria Plateau and rated the quality of each (table 3-3). These ratings reflect the relative quality of the resources and not the amount of recreation use within the area.

*Sightseeing—Archaeological.* Paria Canyon Primitive Area has nine identified archaeological sites where the following remains have been found: petroglyph panels, pottery, water vessels, choppers, and a single-room masonry pueblo. Although the upper terraces and benches have not been surveyed, several hikers have reported finding pottery and stone chips at several sites above the river. The canyon received a Good quality rating.

The Paria Plateau has a density of sites unequaled in the region. Archaeological remains range from chips and flakes through pottery pieces to ruins of multi-roomed pueblos. The Paria Plateau received an Excellent quality rating.

*Sightseeing—Geological.* Paria Canyon, over 1,000 feet deep, reveals five geologic formations over its 34-mile length. The canyon also has such geologic features as amphitheaters, alcoves, narrows, river oxbows, rugged gullies, talus slopes, and the scenic Wrather Arch. Paria Canyon received an Excellent rating.

Although the Paria Plateau was not evaluated in the Unit Resource Analysis (URA), the portion of the plateau proposed for wilderness status under alternative 2 has excellent scenic geologic features.

*Sightseeing—Scenery.* Paria Canyon offers outstanding scenery with the combination of its extremely narrow river canyon, riparian vegetation, colorful red sandstone cliffs, and interesting geologic features. The canyon also has a great diversity of vegetation, ranging from prickly pear cacti in the lower reaches of the canyon to water-loving cattails and watercress near springs and in moist side canyons. Paria Canyon was given an Excellent rating.

Overall, the Paria Plateau was given a Good scenic quality rating. The 74,909 contiguous acres proposed for wilderness status under alternative 2 contain the best scenery on the plateau, including diverse topography, and vistas overlooking Paria Canyon and Bryce Canyon National Park to the north. The plateau also overlooks the mouth of the Paria River at its confluence with the Colorado River in Marble Canyon and the Echo Cliffs, Navajo Mountain, and the Kaibab Plateau.

*Primitive Values.* Primitive values refer to the aesthetic values inventoried under Recreation Information System before the passage of FLPMA. Primitive values should not be confused with wilderness values as defined in the Wilderness Act of 1964. The evaluation of primitive values considers the naturalness, scenic quality, and other important attributes of a primitive experience. Although the Paria Plateau received only an overall Good rating, the portion next to the canyon included in alternative 2 has high primitive values.

Paria Canyon offers an outstanding backpacking and hiking experience. Present heavy use attests to the high quality of its primitive values and to its Excellent rating.

*Hunting—Big Game.* Paria Canyon was not evaluated for hunting because of its low deer population and its inaccessibility. Some hunters use the Paria Plateau,

## TABLE 3-3
## RECREATION QUALITY EVALUATION

| Activity | Paria Canyon | Paria Plateau |
|---|---|---|
| Sightseeing-Archaeological | Good | Excellent |
| Sightseeing-Geological | Excellent | NE |
| Sightseeing-Scenery | Excellent | Good |
| Primitive Values | Excellent | Good |
| Hunting-Big Game | NE | Fair |
| Collecting-Vegetation | NE | Good |
| ORV Use | Fair | Good |

NE = Activity not evaluated.
Source: Coconino Planning Unit URA.

## TABLE 3-4
## VISITOR USE IN PARIA CANYON PRIMITIVE AREA
## 1971-1978

| Year | Visitors | Visitor Days |
|---|---|---|
| 1978 | 1,581 | 11,528 |
| 1977 | 1,051 | 9,053 |
| 1976 | 955 | 9,496 |
| 1975 | 821 | 6,261 |
| 1974 | 872 | 6,650 |
| 1973 | 447 | 3,474 |
| 1972 | 671 | 6,534 |
| 1971 | 506 | 4,977 |

## TABLE 3-5
## RECREATION RESOURCE QUALITY FOR VERMILLION CLIFFS

| Activity | Class Value | Comment |
|---|---|---|
| Collecting: Rocks and Minerals | Fair | Petrified wood |
| Sightseeing: Scenery | Excellent | Colorful 3,000-foot escarpment paralleling US 89A. |
| Sightseeing: Geology | Excellent | Six exposed formations represent 45 million years of geologic history. |
| Off-Road Vehicle Use | Fair | |

Source: Coconino Planning Unit URA.

but the plateau also has a low deer population and is inaccessible.

*Collecting—Vegetation.* Paria Canyon was not evaluated for vegetation collecting. The Paria Plateau was rated Good, since pinyon nuts and Christmas trees are gathered seasonally. In addition, firewood collecting has become increasingly popular on the plateau.

*Off-Road Vehicle Use.* Paria Canyon received a Fair rating for ORV use but is closed to ORVs. The plateau, on the other hand, requires four-wheel drive for safe travel throughout, since great amounts of sand drift across the plateau. The plateau, however, is remote, lacks water and support facilities, and is not ideal for ORV use. Thus, it received a Good rating for ORV use.

*Visitor Use.* Since 1974, national publicity has increased Paria Canyon's popularity as a hiking and backpacking area. Table 3-4 displays annual visitation to Paria Canyon since BLM began keeping records in 1971. Approximately 60 percent of the yearly use occurs in May and June. High water and cooler temperatures in the winter and early spring restrict use to warmer, drier months, and few hike the canyon in July and August due to flash flood danger. Use tends to peak during holidays and college vacations. Figure 3-1 displays the monthly distribution of use during 1978.

Few recreationists visit the Paria Plateau, which is remote from population centers and difficult to traverse. Much of the plateau's 702 visits in 1975 (522 visitor days) involved big-game hunting. The portion of the plateau within the study area is even more lightly used than the rest of the plateau.

## Vermillion Cliffs

BLM has administered the Vermillion Cliffs as a natural area since January 1969, segregating the area from sale, exchange, mining entry, R.S. 2477 rights-of-way, and agricultural entry. The primary management objective—to maintain the area's natural appearance and protect its spectacular scenery—has been carried out in the absence of a management plan for the area.

During the 1860s and 1870s the Church of Jesus Christ of Latter-day Saints (LDS Mormon) extensively colonized northwestern Arizona and southern Utah. Upon completion of the temple in St. George, Utah in 1877, faithful LDS church members had the opportunity to participate in the highest rites of the church. Settlers from villages along the Little Colorado River in Arizona traveled to St. George over a wagon road that crossed the Colorado River at Lees Ferry and passed through House Rock Valley along the base of the Vermillion Cliffs. Because many of these settlers traveled to the temple to get married, the old wagon route became known as the Honeymoon Trail.

BLM has recognized the historic importance of this trail to the southwestern United States by: (1) nominating the entire length of the trail on the Arizona Strip to the National Register of Historic Places; (2) incorporating protective measures into the BLM planning system; and (3) locating and posting the entire trail within the Arizona Strip for hiking and horseback riding.

### Proposed Designations

From October 23 to November 1, 1776 a party of 10 Spaniards followed the base of the Vermillion Cliffs, seeking safe passage across the Colorado River. These men, lead by two Franciscan friars, Francisco Atanasio Dominguez and Silvestre Velez de Escalante, are generally believed to be the first non-Indians to view the Vermillion Cliffs and much of New Mexico, Colorado, Utah, and Arizona. Aborting an attempt to locate a route from Santa Fe, New Mexico to the Spanish capital at Monterey, California, the Dominguez-Escalante Expedition was returning to Santa Fe when they passed through this area.

Congress has recognized the significance of the Dominguez-Escalante Trail by mandating a study of the trail for potential inclusion in the National Trail System as a national historic trail. Accordingly, the National Park Service coordinated the study efforts and prepared a draft report recommending designation as a national historic trail.

BLM has commemorated passage of the Dominguez-Escalante party by constructing an interpretive site in House Rock Valley. Located near US Highway 89A, the facility interprets not only the Dominguez-Escalante Trail but also the geology of the Vermillion Cliffs.

### Recreation Uses

BLM inventoried recreation resources within the Vermillion Cliffs Natural Area. The nature and quality of these resources are displayed in table 3-5.

*Collecting.* Large petrified logs found near the base of the Vermillion Cliffs suggest that once an extensive marshy forest existed in this area. The Shinarump conglomerate and Chinle formation contain the petrified wood, which is mineralized with carnotite and other low-grade uranium minerals. These geologic zones are most apparent in the eastern portion of the natural area. Few rock collectors visit this area, probably due to lack of publicity, limited demand, and minimum size, desirability, quality, and abundance of the rock. The quality rating for this activity is Fair.

*Sightseeing.* The greatest use of the natural area is for scenic and geologic sightseeing. The six visible geologic formations—the Moenkopi, Shinarump conglomerate, Chinle, Moenave, Kayenta, and Navajo sandstone represent 45 million years of geologic history. The more recent large rock falls, steep alluvial slopes, and stark, rugged landscapes clearly demonstrate the powerful forces of nature. Most sightseers, however, are

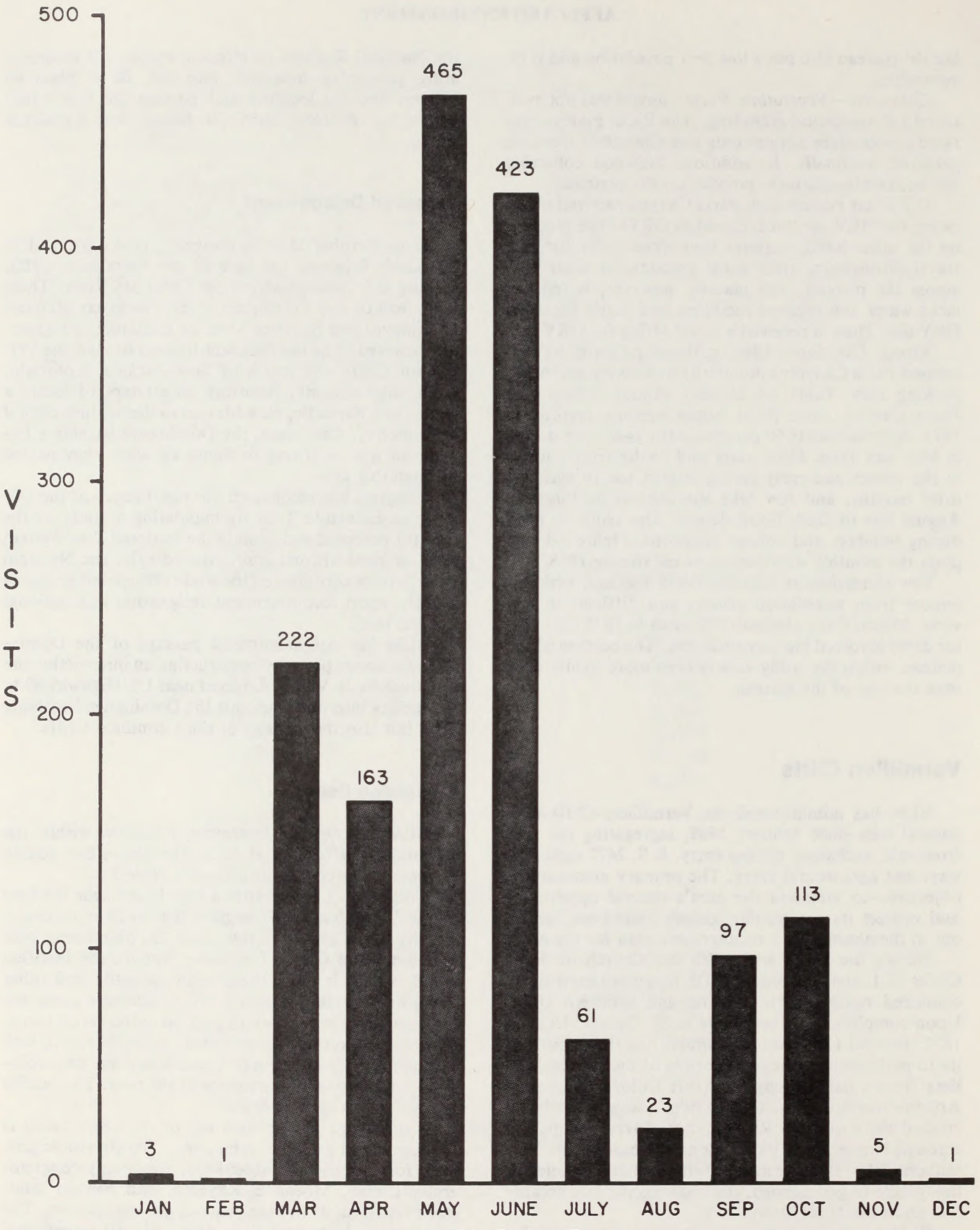


FIGURE 3-1

PARIA CANYON USE DISTRIBUTION, 1978

highway travelers enjoying the spectacular cliffs. The quality rating for sightseeing is Excellent.

*Off-Road Vehicle (ORV).* Much of the natural area has been designated for ORV use, although signs throughout the area encourage ORV users to remain on the existing roads and trails. Perhaps because of the signs or because the portion of the natural area most suitable for ORV use is level, present ORV use is low. These plains support little or no vegetation and lie close to US 89A. The foothills between the cliffs and plains have scattered broken rock, sand dunes, talus slopes, deeply eroded gulches, and small mesas and are not suitable for ORV use. The quality rating for ORV use is only Fair.

*Visitor Use and Facilities.* The Dominguez-Escalante Bicentennial Site is the only developed recreation facility within the Vermillion Cliffs Natural Area. This fenced area includes a low rock-walled interpretive site with three plaques, an identification sign, one concrete picnic table, and a visitor register. Future developments may include a ramada and chemical toilet. According to the visitor register, in 1977 the site accounted for 8,410 visits and 234 visitor days involving visitors from 50 states and 35 foreign countries.

Travelers can view much of the Vermillion Cliffs Natural Area from US 89A. A daily average of 300 vehicles traveled on US 89A in 1976, carrying an estimated 700,800 visitors who spent 29,200 visitor days viewing these scenic cliffs (Coconino URA). From these data, one can project that 1,238,201 visitors, spending 51,592 visitor days, will annually view these cliffs by the year 2000.

## Paiute Primitive Area

### Existing Designations

BLM designated a portion of the Virgin Mountains in Arizona as the Paiute Primitive Area on September 25, 1975 and has managed the area according to the primitive area concept. BLM, however, has never withdrawn the area from all appropriations under existing agricultural and mining laws. The primitive area has been closed to ORV use, but adjoining public lands have not been designated for ORV use. A management plan for the Paiute Primitive Area was prepared and approved in December 1976.

### Recreation Uses

*Hunting.* Approximately 50 percent of visitation to Paiute Primitive Area involves hunting, a result of the large and viable mule deer herd supported by the Virgin Mountains and nearby Black Rock Mountain. The primitive area's rough topography and the ban against motorized travel limit the number of hunters using the area.

*Backpacking, Hiking, and Camping.* Backpacking, hiking, and camping account for the remaining 50 percent of the visits within the primitive area. These activities begin along the points of access and highest interest. The primitive area offers the visitor diverse terrain and vegetation, including a Mohave Desert community, a canyon and mountain environment, and successional stages of vegetation from desert shrub to ponderosa pine and white fir.

*Sightseeing.* Sightseeing within the primitive area most often occurs in conjunction with other activities. Some sightseeing occurs along Interstate 15, which parallels the Virgin Mountains and then cuts through the Virgin River Gorge half a mile north of the primitive area.

*Visitor Use and Facilities.* The Paiute Primitive Area Management Plan estimated 1976 visitor use in the area at 300 visitor days. From this figure BLM recreation specialists projected visitor use to increase to 1,337 visitor days by the year 2000. The Virgin River Campground (3 miles outside the primitive area boundary in Sullivans Canyon) provides the easiest access into the primitive area. From November to June, however, the Virgin River flows between the campground and the primitive area, and high, turbulent flows often prohibit safe crossings. The management plan calls for improving visitor access by building a trail from the campground to the primitive area boundary, including a footbridge across the Virgin River at the campground.

Developed facilities within the primitive area include boundary signs, trails, visitor registers, and a bighorn sheep enclosure. The signs have been placed at all access points, and registers have been placed near Sullivans Spring and in lower Sullivans Canyon. The existing hiking trails are old bulldozer trails along the Virgin Ridge and down from it.

The bighorn sheep enclosure consists of a square-mile area, surrounded by an 8-foot high cyclone fence with a detached battery-operated two-strand electric fence. This facility also includes two watering catchments and pipeline to provide water for the sheep. These structures have been designed to blend with the surrounding environment and are not obtrusive to the landscape. The enclosure is located along the primitive area's western boundary between Hedricks and Frehner canyons. Stocking with captured bighorn sheep began in November 1979. The enclosure will remain until wildlife specialists determine whether a sheep herd can be successfully transferred to and managed in the Virgin Mountains.

# LIVESTOCK GRAZING

## Paria Canyon

Three operators run livestock at or near the upper end of Paria Canyon; four operators run on the rim-rocks above the canyon; and one operator runs livestock at the lower mouth of the canyon. The allotments involved are Pine Hollow, Mollie's Nipple, Ferry Swale, Cedar Mountain, Vermillion, Lees Ferry, and Home Ranch.

### Vermillion Cliffs

Three operators run livestock in the natural area at the foot of the Vermillion Cliffs, and two operators run livestock on the rimrock above the cliffs. Five grazing allotments are involved: Lees Ferry, Home Ranch, Vermillion, House Rock, and Soap Creek.

### Paiute Primitive Area

Two grazing allotments are located partially in Paiute Primitive Area: Littlefield Community allotment with six operators and Sullivan Canyon allotment with one operator.

The following table shows the active privileges (see glossary) for each allotment in the study areas.

| *Allotment* | *Active Privileges (AUMs)* |
|---|---|
| Lees Ferry | 1,129 |
| Ferry Swale | 1,884 |
| Vermillion | 8,686 |
| Home Ranch | 5,225 |
| Mollie's Nipple | 3,436 |
| Cedar Mountain | 1,130 |
| Pine Hollow | 533 |
| Soap Creek | 3,147 |
| House Rock Valley | 2,226 |
| Sullivans Canyon | 2,203 |
| Littlefield Community | 4,311 |

## LAND USE PLANNING, CONTROLS, AND CONSTRAINTS

### Local Planning and Zoning

Paria Canyon lies in Coconino County, Arizona and Kane County, Utah; the Vermillion Cliffs are in Coconino County; and Paiute Primitive Area lies in Mohave County, Arizona.

Mohave County has zoned the area around the Paiute Primitive Area as R-E/10A, Residential-Recreation with a 10-acre minimum lot size. Coconino County has zoned the Paria Canyon and Vermillion Cliffs area as A-General permitting residential, agricultural, and related uses. The Paria Canyon area in Utah has been zoned Open Space-Recreation.

### Government Controls and Constraints

Approximately 35,000 acres of public land in the Virgin Mountains were designated in 1975 as the Paiute Primitive Area. This designation did not segregate the area in any way but did prohibit motorized vehicles. Classification for multiple-use management in 1968, however, segregated the area from agricultural entry and public sale.

The western portions of Paria Canyon and the Vermillion Cliffs were classified for multiple-use management and segregated from agricultural entry and public sale in 1967. The eastern portion of Paria Canyon and the northeastern corner of the Vermillion Cliffs had previously been withdrawn by the Water and Power Resource Service (WPRS) as part of its water storage project on the Colorado River System. These areas were thus not classified for multiple-use management and are still withdrawn for WPRS use. The impact of these withdrawals on designating Paria Canyon or the Vermillion Cliffs as wilderness areas is not certain.

On August 14, 1968, 50,135 acres along the Vermillion Cliffs and 18,909 acres in Arizona and 8,606 acres in Utah in Paria Canyon were segregated from public sale, State or private exchange, State selection, county road right-of-way appropriation, and mineral location. Paria Canyon was designated a primitive area, and the Vermillion Cliffs were designated a natural area in January 1969.

### Land Ownership and Access

Paiute Primitive Area consists entirely of public lands. Three dirt roads lead to the southern edge of the primitive area. Mohave County maintains the Elbow Canyon Road, providing access from Mesquite, Nevada. BLM maintains the Black Rock Road, providing access from St. George, Utah and the Cottonwood Wash Road, providing access from Mesquite and St. George. Access from the north is provided by Interstate 15, which passes just north of the primitive area.

The legal description for the Paria Canyon Primitive Area includes no State or private lands. State lands next to the primitive area boundary, however, do impact the primitive area, since State parcels lie on either side of the river at the mouth of the canyon. Other State parcels extend into or across the canyon at Judd Hollow and in the south half of Section 2, T. 42 N., R. 6 E. In Utah, Section 36, T. 43 S., R. 2 W. extends into Buckskin Gulch (see plate 1).

The north end of the Paria Canyon Primitive Area is accessible by a 2.5-mile long dirt road from US 89. The south end is accessible by a National Park Service paved road from US 89A.

Approximately 3,160 acres of State land and 800 acres of private land lie within Vermillion Cliffs Natural Area. Most of the State lands lie in the western half of the area. (See plate 1.)

Access to the Vermillion Cliffs is provided by US 89A, the southern boundary of the natural area.

### Utilities

Rights-of-way for a wooden pole 69-KV electric powerline and a steel tower 500-KV powerline pass through the upper end of Paria Canyon. The three study areas have no other utility corridors or rights-of-way.

## ECONOMIC AND SOCIAL CONDITIONS

To describe the economic and social conditions relating to the proposed action and its alternatives, BLM specialists delimited an area surrounding the proposed wilderness areas in which residents might be economically or socially affected by the actions. Named the environmental study area (ESA), this area includes Washington and Kane Counties, Utah and portions of Mohave and Coconino Counties, Arizona north of the Grand Canyon and east to Page (map 3-1).

## ECONOMIC CONDITIONS

### Population, Employment, and Income

The ESA's population density is sparse, amounting to 1.64 persons per square mile, as compared to Arizona's density of 15.61 persons per square mile and Utah's density of 12.9 persons per square mile. The U.S. Bureau of the Census (1972a) has classified the Arizona Strip and Kane County as being entirely rural and Washington County as being equally rural and urban.

In 1978, 21 percent of the workers in the ESA were employed in the retail trade industry, and 34 percent were in the service and retail trade sectors combined (Utah Dept. of Employment Security, 1979).

In 1977, the wholesale and retail sectors provided the ESA's largest source of earnings—25 percent. The next most important source of earnings was the government sector, providing 24 percent of the ESA's income (U.S. Dept. of Commerce, Bureau of Economic Analysis, 1979).

### Recreation

Recreation users of the study areas in 1977 are estimated to have spent $342,000 locally, representing 0.05 percent of the ESA's annual personal income (Centaur Associates, Inc., 1979).

The value recreationists place on recreational or scenic areas depends on the following: (1) their willingness to pay for recreation experiences, (2) their willingness to pay for keeping the opportunity to use an area in the future, and (3) their willingness to pay to support unspoiled areas, even though they may never use them. This study attempts to estimate only the willingness to pay for recreation experiences.

One method to estimate the willingness to pay for recreation use is the Clawson-Knetsch travel cost model (Clawson and Knetsch, 1966), in which the number of visitors to a particular site depends on the travel costs visitors are willing to pay for the wilderness experience. As the price to visit an area changes, so does the number of visitors to an area. The travel cost model uses actual observations of visitor use and use characteristics from various origins to a site. The range of costs at different distances from a site provides much information on the influence of costs on participation.

Paria Canyon Primitive Area has good origin and visitor information. (See Recreation section for information on visitor use.) In 1977, 75 percent of visitors to this area came from Arizona, Utah, and California. From this visitor use and origin information, a demand curve for the Paria Primitive Area was developed (Loomis, 1979). The willingness to pay for the benefits gained by the recreational users of Paria Canyon from all United States origins was estimated to be $43,260 in 1977. Thus, the average benefits per visitor day would be $5.80. This value is only an estimate of the actual willingness of recreational users to pay to visit a site and may not reflect the full value of what they would pay to visit it.

If $5.80 reflects the average value of a visitor day in the ESA, then the benefits for all the instant study areas by the year 2000 would amount to $504,800, assuming no wilderness designation and the increase in visitor use discussed in the Recreation section.

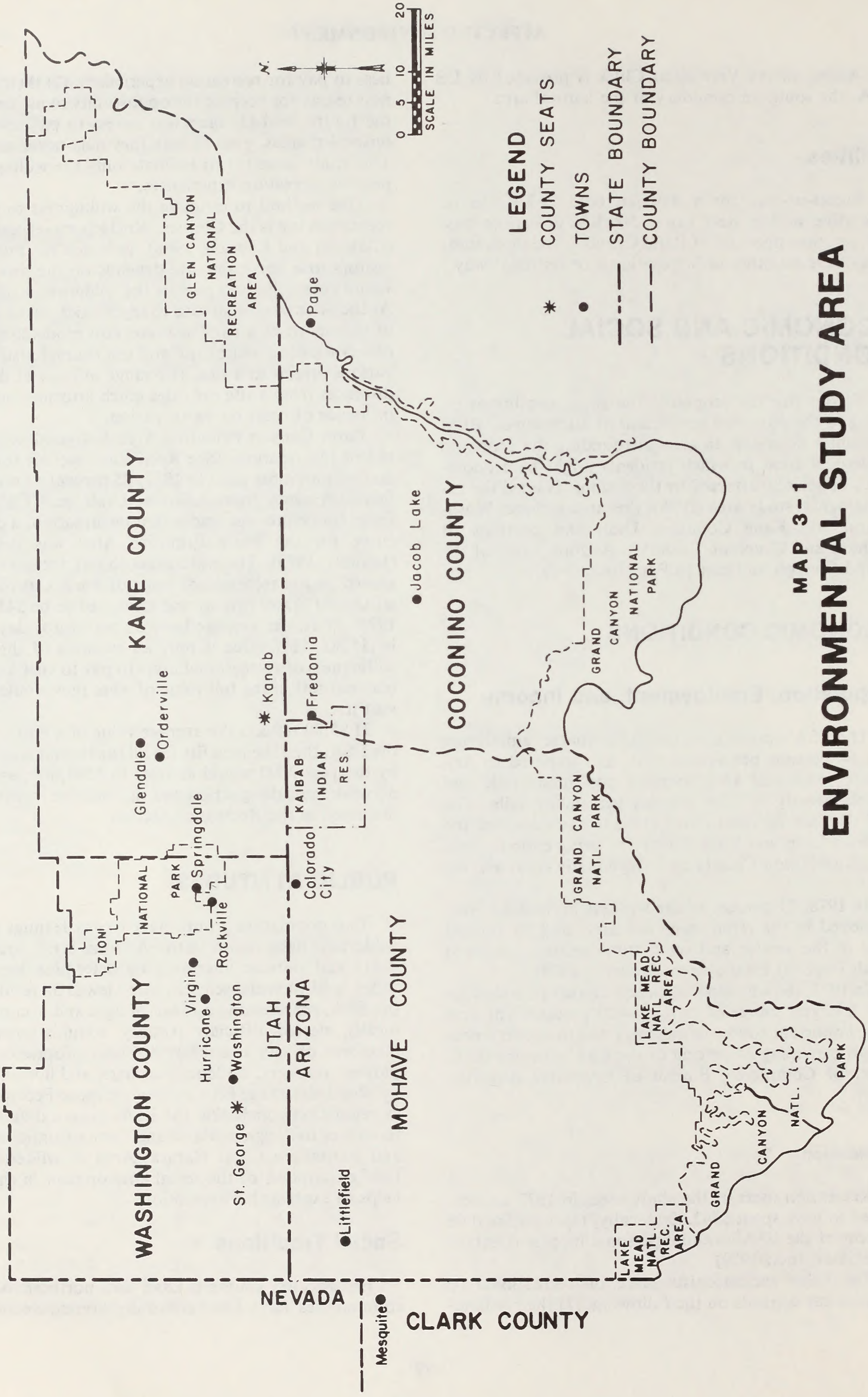
## PUBLIC ATTITUDES

Two population groups have strong feelings toward wilderness designation in the Arizona Strip: local residents and outside interests. To determine local attitudes, a BLM social scientist interviewed 32 residents of the ESA, representing a range of ages and occupations: locally elected officials (county commissioners and members of city councils), business proprietors, employees, teachers, students, ranchers, and homemakers.

Residents of the ESA intensely oppose Federal agency regulations, including the BLM proposal and its alternatives to designate Paria and Paiute Primitive Areas and Vermillion Cliffs Natural Area as wilderness. A brief description of the social environment in the ESA helps to explain this opposition.

### Social Traditions

Historically, southern Utah and northern Arizona communities have been culturally homogeneous. The



## MAP 3-1 ENVIRONMENTAL STUDY AREA

values of this cultural homogeneity stress the small-town virtues of neighborliness, friendliness, and mutual self-help and emphasize close family ties, family pride, economic independence, local autonomy, and a strong religious life. In the past few decades, however, events have created pressures to undermine this cultural homogeneity. Residents perceive these events as coming from outside the ESA, associating many with Federal government policies and regulations.

Residents, for example, feel that the Federal bureaucracy rather than local people has assumed an increasing amount of control over the community, the family, and individuals. They maintain that the bureaucracy regulates the public school curriculum, social welfare practices, health care procedures, fire protection and police services, and family and individual rights.

Residents of the ESA believe that proposed grazing regulations are unwarranted and unfair and threaten the ranching tradition and the livelihood of ranchers. They feel the Forest Service Roadless Area Review and Evaluation (RARE II) and the Park Service Colorado River Management Plan restrict area development. They view with bitterness environmental protection policies affecting potential coal development and power generation, feeling these policies have stoped and can continue to stop industrial growth.

### Population

Although most local people consider population growth beneficial and although the population of ESA communities is increasing, residents perceive this trend with concern. They know that young adults, unable to find good jobs, have left the area, and they view this trend as another threat to their cultural homogeneity.

### Employment and Income

Trade, government, and services dominate employment in the ESA. In 1978 nearly a third of all nonagricultural employees in Washington and Kane Counties were engaged in retail and wholesale trade. Twenty-four percent of the workforce was employed by Federal, State, or local governments. And more than 17 percent worked in the service industry (Utah Dept. of Employment Security, 1978b).

Unemployment in the ESA is low. The 1978 unemployment in Kane and Washington Counties was less than 4 percent (Utah Dept. of Employment Security, 1978b). Per capita income levels are also low. In 1978 the average per capita income for Kane and Washington Counties amounted to $4,650, $350 below the southwestern district average and $1,950 below the Utah statewide average (table 3-6).

Local residents are aware of these facts. They feel that retail trade and service industry employment is not a source of high wages and that developments in manufacturing and mining are needed to increase income and stabilize the economy. They, however, believe that Federal environmental regulations have blocked and delayed these developments. They cite the Kaiparowits project (involving coal mining and power generation and transmission on Utah's Kaiparowits Plateau) as one example. Other examples mentioned deal with delays in coal mining development and with the proposed Allen Warner Valley power project.

Much of the opposition to the proposed wilderness designations comes from a general dislike of Federal regulations. Additionally, some residents oppose wilderness designations because they fail to see any benefits in them. They feel that, although a wilderness designation may increase tourism, the increase would be slight compared to that produced by other recreational activities, and increases in tourist spending would be small. Backpackers, they feel, are not large spenders.

### Outside Interests

Scattered support for the proposed action exists nationally and to a slight degree internationally. This support is primarily concentrated in groups concerned with wilderness designations, including hiking, backpacking, and conservation organizations. Although membership in these groups is small relative to the State and national population, their influence is broad.

## FIRE CONTROL AND MANAGEMENT

### PARIA CANYON

Paria Canyon Primitive Area and contiguous lands have a similar fire potential. The upper plateau and canyon rim consist of sparse grasses, herbaceous plants, and widely spaced pinyon and juniper trees. This low fuel density limits lightning-caused fires to burning single snags or small areas. No extensive fire control efforts have ever been necessary in this area.

Burnable fuels in Paria Canyon consist of thick groves of cottonwood, willows, saltcedar, and redbuds on sandbars and in side canyons. Grasses, leaf litter, and flood debris add to the fuel load and potential fire spread. Although a fire in Paria Canyon would be restricted to one sandbar or side canyon, it would significantly damage riparian habitat, scenery, and camping areas.

### VERMILLION CLIFFS NATURAL AREA

The potential fire area in the Vermillion Cliffs Natural Area lies between US 89A and the Vermillion

## TABLE 3-6
## PER CAPITA INCOME, KANE AND WASHINGTON COUNTIES, 1974-1978

| | Per Capita Income in Dollars | | | | | Percent Change |
|---|---|---|---|---|---|---|
| | 1974 | 1975 | 1976 | 1977 | 1978 | 1974-1978 |
| STATE OF UTAH | 4,500 | 4,900 | 5,400 | 5,900 | 6,600 | 46.6 |
| SOUTHWEST REGION (5 COUNTIES) | 3,500 | 3,800 | 4,200 | 4,500 | 5,000 | 42.9 |
| KANE COUNTY | 3,100 | 3,400 | 3,800 | 4,100 | 4,500 | 45.2 |
| WASHINGTON COUNTY | 3,400 | 3,700 | 4,100 | 4,400 | 4,800 | 41.2 |

Source: Utah Department of Employment Security, 1978a.

Cliffs and is covered by sparse grasses and low forbs. This low fuel density reduces the risk of significant burning.

## PAIUTE PRIMITIVE AREA

Paiute Primitive Area has two distinct fire behavior areas. One area consists of broad alluvial fans with slopes of 0-25 percnt. These slopes are predominantly of upper Sonoran annual grasses and herbaceous plants. Juniper and saltcedar occupy less than one third of the total area. Under normal burning conditions, a fire will consume 100 acres per hour, giving this area an extreme fire behavior rating.

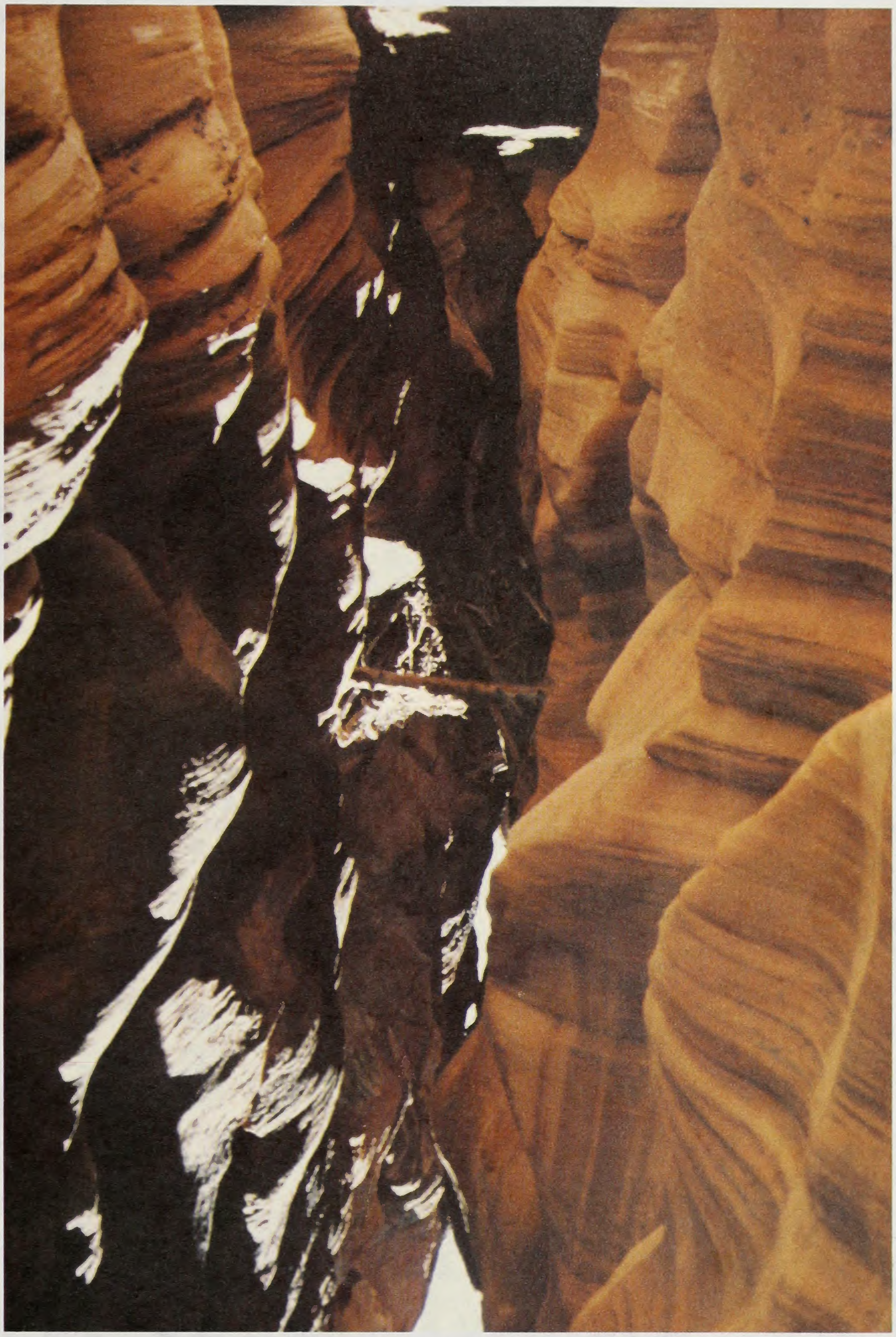
The other area consists of rugged mountains with slopes of 41-55 percent. These slopes are predominantly of transition and cool-season grasses and herbaceous plants. Pinyon, juniper, live oak, ponderosa pine, and white fir are widely spaced with open canopies. Under normal burning conditions, a fire will consume 2 acres per hour, giving this area a moderate fire behavior rating.

Several sizeable old burns in the Paiute Primitive Area reveal a significant fire history. Only four small fires, though, have been suppressed since 1973, each reportedly caused by lightning.

Paria River, approximately 11 miles from its mouth, Paria Canyon Primitive Area.

Rock formation on the rim of Paria Canyon below the confluence of Buckskin Gulch and the Paria River on contiguous public lands proposed for wilderness designation under alternatives 1 and 2.

Paria Canyon approximately 1 mile above Wrather Canyon, Paria Canyon Primitive Area.



Buckskin Gulch (Utah) approximately 5 miles below Wire Pass trailhead, Paria Canyon Primitive Area.

Bush Head Canyon (side canyon to Paria Canyon) 4 miles south of Wrather Canyon, Paria Canyon Primitive Area.

Paria Canyon from mouth of Wrather Canyon, facing downstream, Paria Canyon Primitive Area.

Paria Canyon at lower end of Narrows near Arizona-Utah State line, Paria Canyon Primitive Area.

View to the east into Utah from Coyote Buttes, Arizona, on contiguous public land proposed for wilderness designation under alternative 2.

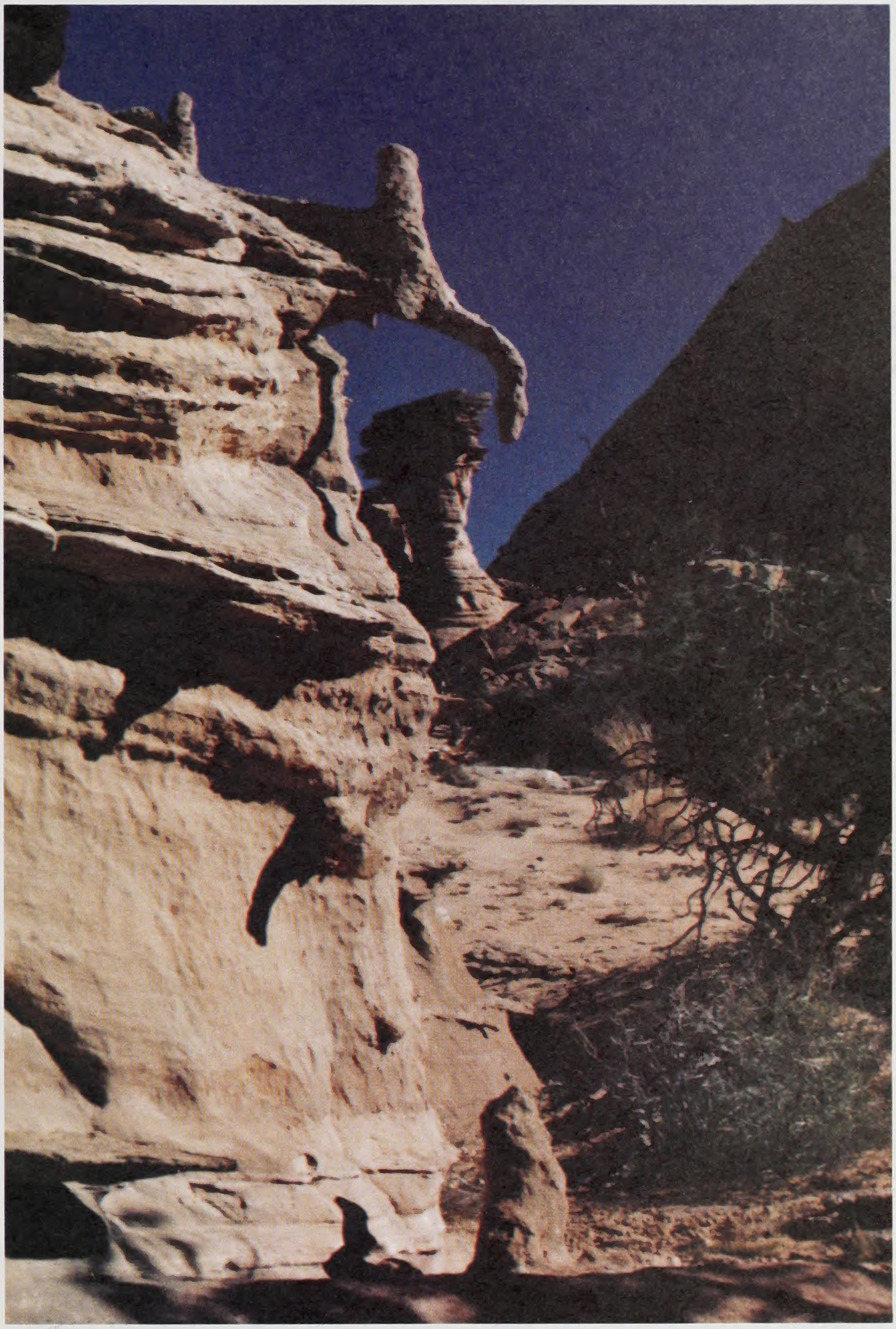
Pocket of ponderosa pine and rock formations of Coyote Buttes, Arizona, on contiguous public land proposed for wilderness designation under alternative 2.

Rock formations and dunes in Coyote Buttes area, Arizona, on contiguous public land proposed for wilderness designation under alternative 2.

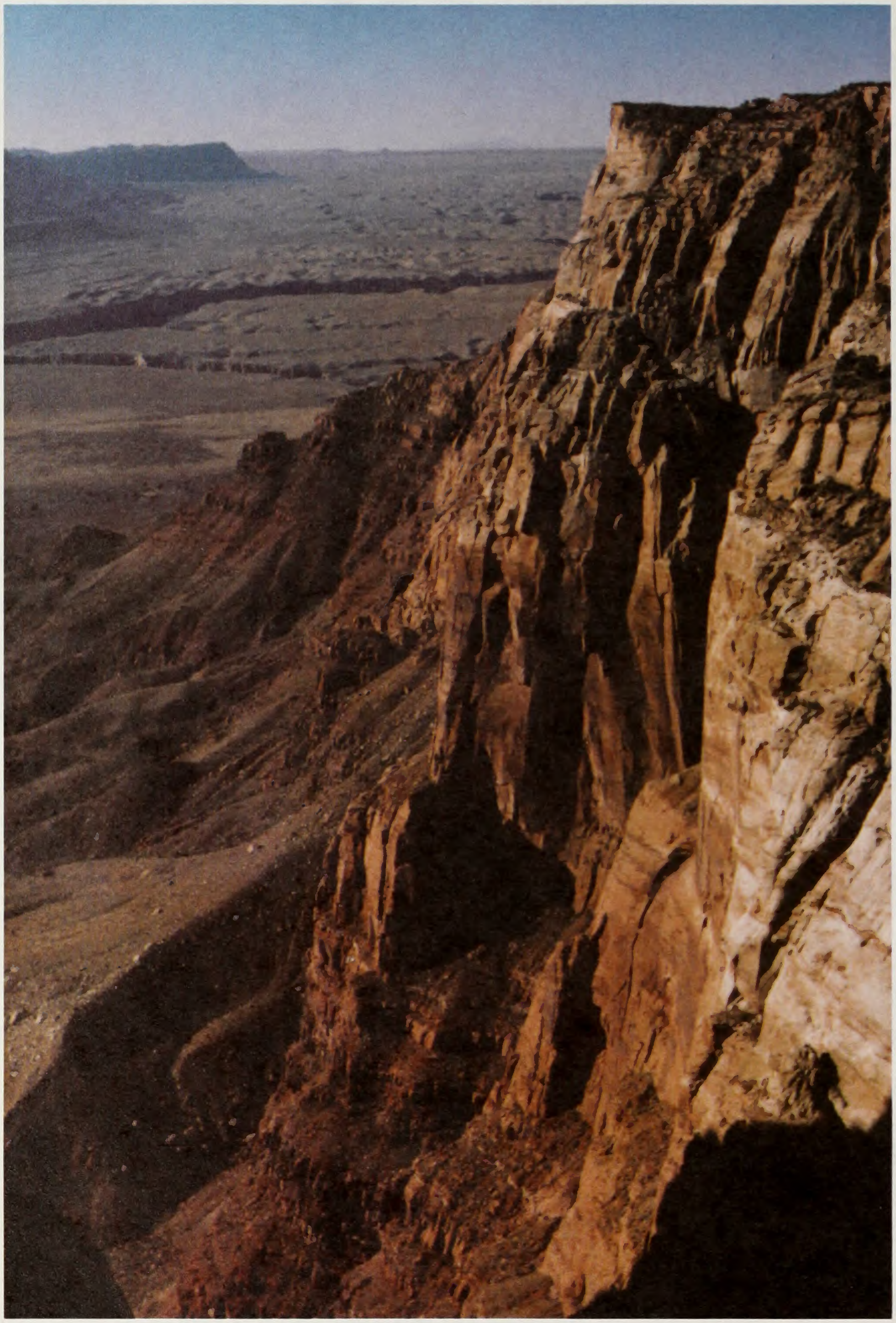
Coyote Buttes, Arizona, on contiguous public land proposed for wilderness designation under alternative 2.

View of Vermillion Cliffs from US Highway 89A, Vermillion Cliffs Natural Area.

View from Powell's Monument looking eastward over Marble Canyon, Vermillion Cliffs Natural Area. On a clear day one can see the San Francisco Peaks, over 100 miles away.



Unusual rock formation near Powell's Monument, Vermillion Cliffs Natural Area.



Face of Vermillion Cliffs overlooking Marble Canyon to the east, Vermillion Cliffs Natural Area.

Trail through ponderosa pine along ridge of Virgin Mountains, Paiute Primitive Area.

The head of Figure Four Canyon facing northwest, Paiute Primitive Area.

Eastward view from north slope of Mount Bangs, Paiute Primitive Area.

Mount Bangs and ponderosa pine forest near summit, Paiute Primitive Area.

Unnamed peak south of Mount Bangs, Paiute Primitive Area.

# SECTION 4

# ENVIRONMENTAL CONSEQUENCES

# SECTION 4

# ENVIRONMENTAL CONSEQUENCES

## INTRODUCTION

Section 4 describes and analyzes the probable environmental impacts of the proposed action and alternatives. The analysis is designed to be commensurate with the expected magnitude, intensity, duration, and incidence of impacts. The discussion focuses on environmental components protected by law and other resources considered particularly important to man and his environment.

Section 4 analyzes each impact and identifies and traces secondary impacts. It analyzes temporary or short-term as well as permanent or long-term impacts. Section 4 also discusses mitigating measures proposed to reduce or eliminate adverse environmental impacts and identifies unavoidable adverse impacts of the proposed action or alternatives. In addition, section 4 discusses the relationship between the short-term use of man's environment and the maintenance and enhancement of long-term productivity, and identifies any irreversible or irretrievable commitments of resources involved in implementing the proposed action or its alternatives.

The proposed action is predicted to have no significant impacts on climate, air quality, noise, topography, geology, soils, vegetation, forestry, and fire management and control.

The following assumptions have been made as a basis for the impact analysis.

### PROPOSED ACTION

- All lands determined to have wilderness character will continue to be managed according to the interim management policy until Congress acts on the President's recommendation.
- Contiguous lands in the EIS study areas that have not undergone complete wilderness inventory will be included in the regularly scheduled wilderness study.
- BLM will manage these lands to protect wilderness values.
- Bighorn sheep transplants will continue, and needed improvements will be allowed if they do not unduly impact wilderness values.
- Range and wildlife improvements installed by customary methods may be allowed after careful case-by-case consideration of the impact on the wilderness character.
- Range and wildlife improvements may be maintained if the work can be completed without impairing wilderness character and appropriate stipulations are followed.
- VRM objectives will be considered in the planning of all improvements installed in wilderness areas. VRM Class I guidelines will be used in the design and location of proposed projects to protect naturalness and solitude.
- Forest resources will be managed to allow natural succession.
- A fire management plan will be developed, limiting control to protection of life and personal property.
- Designation will preclude all oil, gas, or mineral exploration and development except that allowed by section 4 of the Wilderness Act of 1964.
- Recreation management will not change except that motorized equipment will be restricted in the Vermillion Cliffs and visitor use may be regulated if the visitor carrying capacity of an area is exceeded.

### ALTERNATIVE 1—BOUNDARY ADJUSTMENT

In areas designated wilderness under alternative 1, all the assumptions listed under the proposed action will apply.

The portion of the Vermillion Cliffs Natural Area not included in the wilderness proposal for this alternative will continue to be managed and protected as a natural area.

### ALTERNATIVE 2—CONTIGUOUS LANDS

In areas designated wilderness under alternative 2, all assumptions listed for the proposed action will apply. In addition, access will be restricted and wilderness values protected on contiguous lands proposed for wilderness designation.

### ALTERNATIVE 3—NO ACTION

Under alternative 3 Paria Canyon and Paiute Primitive Areas would lose their primitive area designations.

- Management and protection of the Paria Canyon Area will not change.
- Vermillion Cliffs Natural Area will not be affected.
- Removing the primitive area designation from Paiute Primitive Area will return the area to multiple-use management but continue to restrict ORV use.

## AIR QUALITY

The proposed action and alternatives 1, 2, and 3 would not impact air quality. Wilderness designations do not reclassify areas. Any possible reclassification would follow procedures in the Prevention of Significant Deterioration section of the Clean Air Act.

## MINERALS

Although the potential exists for mineral production, no mining occurs within the study areas. The proposed action would further restrict the exploration for and production of any minerals in these areas.

### PARIA CANYON AND VERMILLION CLIFFS

Alternative 1 would extend the restriction of mineral development into the 22,285 acres in the Vermillion Cliffs Natural Area that would be added to the Paria Canyon Wilderness. Alternative 2 would increase the size of the Paria Canyon Wilderness, further restricting if not prohibiting mineral development. Alternative 3, proposing no change, would not impact mineral resources in these areas.

### PAIUTE PRIMITIVE AREA

The Paiute Wilderness Area proposed under alternative 1 would not include 413 acres in the existing primitive area but would include 243 acres of adjacent public lands. Those excluded areas could be mined, but mining would be more restricted in the wilderness area. The slight change from existing conditions would little impact minerals. Alternative 3 (no action) would not change existing conditions in Paiute Primitive Area.

## WATER RESOURCES

The proposed action and alternatives 1 and 2 would regulate development of water resources to protect wilderness values in the areas. The no-action alternative would not impact water resources.

## ANIMALS

The proposed action and alternative 3 would not significantly impact animals, since the areas are already protected from development. Alternative 1 would expand the proposed Paria Canyon Wilderness by 32,229 acres, and alternative 2 would expand the proposed wilderness by 97,194 acres, mostly pinyon-juniper woodland habitat on the Paria Plateau. Wildlife species would benefit from the protection of this habitat from future development.

## CULTURAL RESOURCES

The main impact of the proposed action and alternatives 1 and 2 on cultural resources would be more vandalism from increased visitor use. A secondary impact would be increased costs of mitigation and protective measures made necessary by banning motorized vehicles and mechanized equipment in the wilderness area.

Readjusting boundaries (alternative 1) would not affect Paiute Primitive Area but would fail to protect the western portions of the Dominguez-Escalante and Honeymoon Trails in the Vermillion Cliffs Natural Area. Alternative 1 would not adversely impact Paria Canyon but would probably enhance it by providing the canyon and wilderness area with a buffer zone on the Paria Plateau.

Alternative 2 (contiguous lands) would increase the potential for inclusion of sacred sites, plants, and animals in a wilderness area and would also increase the number of cultural sites susceptible to vandalism, especially at the Vermillion Cliffs and in Paria Canyon.

## LANDSCAPE CHARACTER

### VISUAL RESOURCES

The proposed action would not noticeably impact the visual resources of Paria Canyon Primitive Area. The canyon's primitive area status protects its visual resources as they would be protected under a wilderness designation. The proposed action would provide additional protection for the scenery of Paiute Primitive Area and the Vermillion Cliffs Natural Area. Paiute

Primitive Area has not been segregated from mineral entry, but its wilderness designation would prohibit surface disturbances from mining. The Vermillion Cliffs Natural Area is not closed to vehicles, but if it is designated as a wilderness, soil erosion, compaction, and littering associated with vehicular traffic would cease. On the other hand, if the wilderness designation attracts more people to the areas, littering might increase, and user permits might be required to control resource abuse.

Alternative 1 would additionally protect visual resources on lands contiguous to Paria Canyon Primitive Area (14,600 acres), on the northeast portion of the Vermillion Cliffs Natural Area (22,285 acres), and on lands within the proposed Paiute Wilderness Area (34,922 acres). Vehicles and mining would no longer adversely affect visual resources.

Alternative 2 would provide additional visual resource protection for 74,909 acres contiguous to Paria Canyon Primitive Area, the northeast portion of the Vermillion Cliffs Natural Area (22,285 acres), and 34,922 acres of the Paiute Primitive Area. Vehicles and mining are not expected to adversely affect designated wilderness areas.

Visual resources would not change under alternative 3, since no action would take place.

## VRM CLASSES

The proposed action and its alternatives would involve the following VRM class boundary changes. The proposed action and alternative 3 would not change VRM class boundaries. Under alternative 1, approximately 10,950 acres designated as Class II and 3,900 acres designated as Class IV would be reclassified into the more restrictive Class I. Under alternative 2, 14,950 acres designated as Class II, 4,900 acres designated as Class III, and 58,350 acres designated as Class IV would be designated Class I and would be managed accordingly. No VRM Class I designations would be removed under the proposed action or the alternatives. Table 4-1 shows the VRM Class I acreage involved under each alternative.

VRM classes are intended to provide management with guidelines to protect the visual resources of different areas to varying degrees. Although each project is reviewed individually, some generalizations can be made. More effort and costs will usually be needed to make a project fit the landscape in a VRM Class I than in less restrictive classes II through IV. The degree of additional effort or cost required to make a proposed project fit a particular VRM class would depend on the visual aspects of the project, the quality of the landscape around the project, human sensitivity to proposed developments, and the distance from which most people would view the project. Projects that would probably not meet VRM Class I objectives include above-ground transmission lines, power plants, and roads. Such projects, however, might be allowed if found to be in the national interest. Fences and water developments would be considered within wilderness visual objectives if designed, constructed, and located properly. BLM Organic Act Directive No. 79-40 states that withdrawals will remain in effect until Congress acts on wilderness designations and the areas are studied for possible designation as areas of critical environmental concern.

## WILDERNESS

Wilderness designation of the study areas would benefit all wilderness values by legislatively protecting them.

The proposal and the no-action alternative would preclude the option of legislatively protecting wilderness values on public lands contiguous to the study areas. Under alternatives 1 and 2 current management plans would continue to protect portions of the existing areas removed from wilderness consideration. Contiguous lands included in alternatives 1 and 2 would receive increased protection. Designating only part of the contiguous lands, however, would preclude the future option of protecting any remaining lands determined through complete inventory to have wilderness character.

## PARIA CANYON PRIMITIVE AREA

Visitor use in Paria Canyon tends to concentrate in a narrow corridor. When visitor use reaches its carrying capacity the proposed action would adversely impact naturalness and the opportunity for solitude. Conversely, alternative 1 would moderately increase the size of the proposed wilderness area, allowing better concealment of any future man-related impairments and a better opportunity for solitude.

Alternative 2 would greatly increase the size of the proposed wilderness, providing better opportunity for dispersal of visitor use, improving the opportunity for solitude, and protecting the naturalness by impeding encroachment on the area's interior.

Alternatives 1 and 2 would combine supplemental values—cultural resources, scenery, plants and animals—in Vermillion Cliffs Natural Area, Paria Canyon Primitive Area, and the public lands next to Paria Canyon. These supplemental values in one area would benefit from the addition of similar values in adjacent areas. Likewise, combining areas under alternatives 1 and 2 would increase opportunities for wilderness hiking, climbing, sightseeing, and backpacking.

Under the no-action alternative, BLM would continue to protect the primitive values of Paria Canyon under the current management plan.

## TABLE 4-1
## VRM CLASS I ACRES

| VRM Class I* | Proposed Action | Alternative 1 | Alternative 2 | Alternative 3 | Present Situation |
|---|---|---|---|---|---|
| Paria | 27,515 | 38,259 | 125,105 | 27,515 | 27,515 |
| Vermillion | 50,135 | 50,135 | 28,490 | 50,135 | 50,135 |
| Paiute | 35,092 | 34,922 | 34,922 | 35,092 | 35,092 |

*VRM Class I provides primarily for natural ecological changes. Any proposed projects must be located and designed to fit discreetly into the landscape.

## VERMILLION CLIFFS NATURAL AREA

The proposed action would permanently protect wilderness values by restricting vehicles on roads within the Vermillion Cliffs Natural Area. The proposal would also restrict future man-related intrusions affecting the visitor experience and naturalness of the study area. Only improvements determined not to disturb the wilderness character would be permitted. Although alternative 1 would exclude the western portion of the Vermillion Cliffs Natural Area from wilderness consideration, the addition of the remaining acreage would increase the overall size of the proposed Paria Canyon Wilderness.

Alternative 2 would also remove the western portion of the natural area from further wilderness consideration. But it would greatly increase opportunities for solitude by combining Paria Canyon Primitive Area, most contiguous lands, and the northeastern part of the natural area into one large unit. This large unit would allow the best dispersal of visitor use. Except possibly in the main canyon, dispersal would increase the opportunity for solitude and protect the area's naturalness by helping avoid heavy concentrations of use. The large size would further benefit naturalness by hindering encroachment on the interior of the study area.

Under no action the existing management plan would continue to protect natural and scenic values in the Vermillion Cliffs. The presence of motorized vehicles and mineral development, however, would intrude on solitude and naturalness.

## PAIUTE PRIMITIVE AREA

Designating Paiute Primitive Area as wilderness would adversely impact naturalness and solitude when the carrying capacity of visitor use is reached. In addition, boundary changes under alternatives 1 and 2 would reduce the size of the study area. Removing the study area from mineral development and shifting its eastern boundary to a canyon rim, however, would protect its naturalness, make it easier to manage, and increase its opportunity for solitude.

The no-action alternative would continue current management plans to protect the primitive values but would reduce the area's naturalness and the opportunity for solitude. Existing management plans allow continued mineral exploration and development.

# LAND USE

## RECREATION

BLM outdoor recreation specialists evaluated recreation designations, facilities, and uses for the study areas to determine whether the proposed action and its alternatives would enhance or detract from the area's management objectives, recreation quality, and visitor use. They found that wilderness designation would more permanently protect wilderness values than existing primitive and natural area designations.

### Paria Canyon

#### Off-Road Vehicle Use

The proposed action and alternatives 1, 2, and 3 would not affect ORV designations, since Paria Canyon's present ''closed'' designation would remain in effect. Although alternative 2 would ban ORV use on 74,909 acres next to Paria Canyon, the impact would be slight since present ORV use is low.

#### Hunting

The quality and opportunity for hunting would not change under the proposed action or alternatives 1 and 3. Although alternative 2 might not affect the quality of hunting, banning ORV use on 74,909 acres on the Paria Plateau might slightly decrease hunting opportunity.

#### Sightseeing

Increased visitor use resulting from wilderness designation might accelerate the decline of sightseeing values. Although expected impacts would be slight, graffiti and loss of pottery sherds or other artifacts would diminish the scenic, archaeologic, and geologic sightseeing quality.

#### Primitive Values

The proposed action and alternative 1 would significantly affect neither the opportunity nor the quality of primitive values. Alternative 3 (no action) might fail to prevent the construction of roads, range developments, and other facilities under existing management practices and might thus have a moderately adverse impact on primitive values. On the other hand, alternative 2 would place 74,909 acres of contiguous land under wilderness protection and moderately benefit primitive values.

#### Collecting

The adoption of the proposed action or any of the alternatives would little affect collecting in Paria Canyon. Prohibiting ORV use on 74,909 acres of contiguous lands under alternative 2 would slightly impede collecting.

### Visitor Use

Implementing the proposed action and alternatives 1 and 2 would increase visitor use, moderately impacting Paria Canyon. Paria Canyon's reputation as an excellent place for backpacking and wilderness experiences has increased through publicity from universities, the news media, and hiking and wilderness clubs and their publications. Wilderness review, this EIS, and other phases of the wilderness decisionmaking process would further increase publicity.

Increased visitor use could result in vegetation destruction, erosion, soil compaction, and increased fire potential in Wrather Canyon, increased unsightly campsites and fire rings, increased vandalism to cultural sites, and increased litter and human waste.

### Facilities

The proposed action would not impact existing management facilities. Section 4(c) of the Wilderness Act of 1964 allows for certain facilities to meet minimum requirements for the administration of a wilderness area. Additional facilities might be constructed to mitigate potential impacts or to improve manageability of the area.

## Vermillion Cliffs

### Designations

Both the Honeymoon Trail and the proposed Dominguez-Escalante National Historic Trail would benefit from a wilderness designation for the Vermillion Cliffs. Both trails would be protected by eliminating motorized travel, and their historic authenticity and surrounding scenery would be preserved by minimizing man-caused changes in the area.

### Off-Road Vehicle Use

The proposed action and alternatives 1 and 2 would eliminate ORV use on all areas designated as wilderness. The impact would be low, however, due to present low use. ORV use on the 27,850 acres retained as the Vermillion Cliffs Natural Area under alternatives 1 and 2 and the entire area under alternative 3 would not be impacted. The 74,909 acres of land contiguous to Paria Canyon Primitive Area would be closed to ORV use under alternative 2.

### Collecting

Redesignating the natural area as wilderness under the proposed action would have a low adverse effect on petrified wood collecting. Collectors, unable to use ORVs, would have to hand carry the heavy rock long distances from the base of the Vermillion Cliffs to existing roads. Such restrictions would prevent collecting of large samples and large amounts.

### Sightseeing

The proposed action would impact neither the quality of nor the opportuity for geologic sightseeing. On the other hand, closing 74,909 acres of contiguous lands to ORV use would reduce accessibility for geologic sightseeing. Present sightseeing, however, is low, and the degree of impact would also be low.

Historic sightseeing would benefit from the preservation of the environment as near to the actual conditions when the Honeymoon and Dominguez-Escalante Trails were first used. Wilderness management would allow closer scrutiny of projects allowed within an area than does natural area management. The 22,285 acres of the natural area proposed for addition to the Paria Canyon Wilderness under alternatives 1 and 2 would be impacted the same as under the proposed action. The scenic quality of the 27,850 acres retained in natural area status under alternatives 1 and 2 and of the entire natural area under alternative 3, however, could significantly deteriorate once additional fences, pipelines, and other range developments are completed.

### Visitor Use

Implementing the proposed action or the alternatives would not significantly change visitation to the Vermillion Cliffs.

## Paiute Primitive Area

### Off-Road Vehicle Use

The proposed action would not impact the quality or opportunity for ORV use, hunting, sightseeing, backpacking, hiking, and camping.

### Visitor Use

The proposed action and alternatives 1 and 2 would slightly increase visitor use as a result of widespread publicity during decisionmaking. After designation, the area would be greater publicized by the news media, wilderness guidebooks, and literature.

The increased use might slightly impact some resources, increasing littering, vegetation destruction, campsites and fire rings, and vandalism to cultural sites.

In addition, increased publicity would shift the type and season of recreation use from predominantly hunting in the fall to backpacking, hiking, and camping in spring and fall and possibly during winter in lower Sullivans Canyon.

### Facilities

The proposed action would not impact the existing management facilities. Section 4(c) of the Wilderness Act of 1964 allows for certain facilities to meet minimum requirements for the administration of a wilderness area, and some facilities might be added to assist in managing more visitors.

## LIVESTOCK GRAZING

### Paria Canyon

Should catchment development conflict with wilderness and visual requirements, alternative 2 could stop such development on the Vermillion Cliffs and Home Ranch allotments, frustrating the implementation of proper livestock management. Moreover, banning motor vehicles on roads and ways would inconvenience ranchers in livestock management.

### Vermillion Cliffs

The proposed action and alternatives 1 and 2 could hinder the development and maintenance of waters, should such development impair wilderness values and visual resources. Failure to develop or maintain waters could in turn hinder proper livestock management, forcing livestock reductions. Lack of maintenance on existing reservoirs and catchments (plate 1) would allow them to deteriorate. Eventually they could no longer hold water. Normal feasibility studies will determine the area's water projects whose maintenance or development would conflict with wilderness values.

As in Paria Canyon, restricting the use of roads and ways for supervising livestock would inconvenience ranchers.

## LAND USE PLANNING, CONTROLS, AND CONSTRAINTS

A wilderness designation might prevent the construction of additional utility rights-of-way next to the powerline that crosses the northern end of Paria Canyon in Utah. This designation might also preclude transportation and utility rights-of-way and the adopting of other land uses within the proposed wilderness areas.

## ECONOMIC AND SOCIAL CONDITIONS

### ECONOMIC CONDITIONS

No significant impacts to economic conditions in the environmental study area (ESA) are expected under the proposed action or alternatives. BLM economists, however, estimated the benefits from increased recreation visitor use under the proposed action and alternatives, using the Clawson-Knetsch (1966) travel cost model. They used an average value of $5.80 per visitor day, estimating the following net increases in benefits by the year 2000.

| ACTION | NET CHANGE IN BENEFITS |
|---|---|
| Proposed Action | $99,400 |
| Alternative 1 | $99,400 |
| Alternative 2 | $128,400 |
| Alternative 3 | No Change |

These values, however, do not consider decreases in the quality of the wilderness experience that might result from increases in visitor use.

Neither the proposed action nor the alternatives are expected to have significant economic impacts on livestock grazing or mining. The U.S. Geological Survey and Bureau of Mines mineral survey report will discuss the potential for future mineral development. This report might necessitate further assessment of impacts on mineral resources.

### PUBLIC ATTITUDES

Although wilderness designation would not adversely impact the social environment, it would intensify the opposition of area residents to Federal programs. These residents would interpret the action as one more threat to their cultural homogeneity.

Local businessmen have identified at least two potentially adverse impacts of wilderness designation.

First, they feel that air quality restriction might limit future industrial development. Second, they feel that wilderness designation would increase tourism without increasing financial benefits to the local area, since they feel backpackers are not big spenders.

External interest groups, on the other hand, would benefit psychologically from the knowledge that these areas would be preserved as wilderness.

## MITIGATING MEASURES

BLM will develop routine management practices as necessary to mitigate environmental disturbances. Such management practices may include developing photo trend plots to monitor resource impacts, setting up a permit system to limit party size or time and season of use, banning open fires, designating campsites to reduce impacts on vegetation and soils, and starting an environmental education program to reduce environmental damage from increased visitor use. BLM will include a fire control program in the management plan for each area.

## UNAVOIDABLE ADVERSE IMPACTS

The proposed action and alternatives would regulate or further restrict development of the area's water resources and further restrict mineral exploration and production conflicting with the preservation of wilderness values. Range improvement construction and maintenance costs might increase, since VRM standards would be considered in their design. Wilderness designation would also worsen negative attitudes toward government; residents would feel that a change in air quality classifications might hamper industrial growth, even though the two are unrelated.

## RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE OF LONG-TERM PRODUCTIVITY

The proposed action would involve no losses to long-term productivity. Wilderness designation would tend to maintain long-term productivity and provide maximum protection to each of the three ecosystem complexes.

## IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The designation of lands as wilderness is a long-term commitment of resources and land. Congress, however, can change the classification. Thus, the commitment of land to wilderness would be neither irreversible nor irretrievable.

# SECTION 5

# CONSULTATION AND COORDINATION

# SECTION 5

# CONSULTATION AND COORDINATION

## CONSULTATION AND COORDINATION IN PREPARATION OF THE DRAFT EIS

During preparation of this draft EIS, BLM sought information from State and Federal agencies with expertise relating to the proposed action. Records of correspondence are on file in the Arizona Strip District office.

The Arizona Strip District issued news releases describing the EIS and requesting the contribution of interested individuals and groups. As a follow-up to the news releases, the District wrote letters to a broad spectrum of resource users, groups, individuals, and agencies. These letters described the Arizona Strip Wilderness EIS and requested information, opinions, and suggestions on its preparation.

The Arizona Strip District prepared a briefing on the actions proposed in the EIS for presentation to congressional delegations, county commissions, and other interested groups and individuals.

Before writing the Arizona Strip Wilderness Draft EIS, BLM published several announcements relating to EIS preparation. In the Federal Register of April 17, 1979, BLM published tentative alternatives to the proposed action and in the Federal Register of May 29, 1979 BLM published a notice requesting comments on land use planning recommendations to be considered in the EIS. BLM issued two news releases relating to the EIS, one (April 19, 1979) announcing scoping meetings for the EIS and the other (May 18, 1979) announcing dates and locations for discussions of the development of the EIS. Finally the BLM Arizona State Office published a special issue of *Arizona Public Lands Update,* inviting wilderness comments and questions on instant study areas.

## COORDINATION IN THE REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

BLM will request comments on the draft EIS from interested individuals and the following agencies and interest groups:

**Advisory Council on Historic Preservation**

**Department of Agriculture**

Agricultural Stabilization and Conservation Service
Forest Service
Soil Conservation Service

**Department of the Interior**

Bureau of Indian Affairs
Bureau of Mines
Water and Power Resources Service
Heritage Conservation and Recreation Service
National Park Service
Fish and Wildlife Service
Geological Survey

**Environmental Protection Agency**

**Arizona and Utah Congressional Delegations**

**State Agencies**

**Arizona**

Arizona Agriculture and Horiticulture Commission
Arizona Association of Conservation Districts
Arizona Department of Library and Archives
Arizona Department of Transportation

Arizona Game and Fish Department
Arizona Indian Affairs Commission
Arizona Natural Resource Conservation Districts
Arizona Office of Arid Land Studies
Arizona Office of Economic Planning and Development
Arizona Outdoor Recreation Coordinating Commission
Arizona State Clearinghouse
Arizona State Historic Preservation Officer
Arizona State Land Commissioner
Arizona State Parks Board
Commission on Arizona Environment
Director, League of Arizona Cities and Towns
State Department of Property Evaluation

### Utah

Commissioner, Utah Department of Agriculture
Utah Division of Lands
Utah Division of Natural Resources
Utah Division of Wildlife Resources
Utah Environment Center
Utah Office of State Planning
Utah State Clearinghouse
Utah State Engineer
Utah State Historic Preservation Officer

### Local Government

Fredonia Town Council
Hurricane Town Council
Iron County Extension Service
Kaibab Paiute Tribe
Littlefield Town Council
Mayor of St. George
Mohave County Board of Supervisors
Mohave County Extension Service
Mohave County Manager
Mohave County Planning and Zoning Commission
Northern Arizona Council of Governments
Washington County Commission
Washington County Extension Service

### Other Organizations

American Fisheries Society
Amerind Foundation
Arizona Archaeological Society
Arizona Association of Earth Science Clubs
Arizona Camping Association
Arizona Cattle Growers Association
Arizona Conservation Council
Arizona Desert Bighorn Sheep Society
Arizona Farm Bureau Federation
Arizona Roadside Council
Arizona Wilderness Study Committee
Arizona Wildlife Federation
Arizona Wildlife Society
Arizona Wool Growers Association
Audubon Society
Defenders of Wildlife
Desert Research Institute
Friends of the Earth
Isaak Walton League of America
Hurricane Chamber of Commerce
Littlefield-Hurricane Valley Conservation District
Mohave County Cattle Growers Association
Mohave County Farm Bureau
Mohave Sportsman Club
National 4-Wheel Drive Association
National Council of Public Land Users
Natural Resources Defense Council
Nature Conservancy
Public Lands Institute
Sierra Club
Society for Range Management
Southern Utah Residents Concerned about the Environment
Utah Cattlemen's Association
Utah Wool Growers Association
Washington County Cattlemen's Association
Washington County Farm Bureau
Wilderness Society
Wildlife Federation

Copies of this draft EIS will be available for public inspection at the following Bureau of Land Management offices:

Office of Public Affairs
Bureau of Land Management
Interior Building, 18th and C Streets, N. W.
Washington, D. C. 20240
Phone: (202) 343-5717

Arizona State Office
Bureau of Land Management
2400 Valley Bank Center
Phoenix, AZ 85073
Phone: (602) 261-3706

Utah State Office
Bureau of Land Management
136 E. Temple
Salt Lake City, Utah 84111
Phone: (801) 524-4227

Arizona Strip District Office
Bureau of Land Management
196 E. Tabernacle
St. George, Utah 84770
Phone: (801) 673-3545

Cedar City District Office
Bureau of Land Management
1579 N. Main
Cedar City, Utah 84720
Phone: (801) 586-2801

## CONSULTATION AND COORDINATION

Kanab Resource Area Office
Bureau of Land Management
320 North First East
Kanab, Utah 84741
Phone: (801) 644-2672

Oral and written comments will also be received at formal public hearings to be held in the following cities:

St. George, Utah
Kanab, Utah
Salt Lake City, Utah
Phoenix, Arizona

Details on the public hearings will be published in the Federal Register and in local newspapers.

# SECTION 6

# PREPARERS

# TABLE 6-1
# LIST OF PREPARERS

| NAME | EIS ASSIGNMENT | POSITION | EDUCATION | EXPERIENCE |
|---|---|---|---|---|
| K. G. Beckstrom | Land Use Planning | Arizona Strip District Office Community Planner | A.S. Dixie College; B.S. Range Management, Utah State University | 11 years BLM |
| R. P. Blair | Outdoor Recreation | Arizona Strip District Office Outdoor Recreation Planner and Public Affairs | B.S. Forest Production, University of Illinois; M.S. Forest Recreation, University of Missouri | 2 years BLM, 1 ½ years Bureau of Reclamation, 2 years Washington County, Oregon Parks and Recreation; 3 years Bureau of Outdoor Recreation |
| R. G. Burch | Management Program Coordination | Arizona State Office Wilderness Coordinator | B.S. Range Management, Utah State University | 11 years BLM |
| G. A. Carpenter | Wilderness and Scoping | Arizona Strip District Office Natural Resource Specialist | B.S. Range Science, Brigham Young University | 5 years BLM |
| D. R. Carter | Team Leader and Public Affairs | Arizona Strip District Office Environmental Specialist | B.S. Botany and Range Management, Brigham Young University | 8 years BLM |
| W. K. Carter | Environmental Coordination | Arizona State Office Environmental Coordinator | B.S. Agronomy, Kansas State University | 13 years BLM |
| T. F. Folks | Wilderness | Arizona Strip District Office Outdoor Recreation Planner and Wilderness Specialist | B.S. Recreation Park Planning and Resource Management, University of Utah | 1 ½ years BLM<br>3 ½ years Forest Service, ½ year National Park Service |
| L. E. Hughes | Vegetation, Livestock Grazing, Threatened and Endangered Plants | Arizona Strip District Office Vegetation Specialist | A.S. Forestry, North Dakota State University; B.S. Range and Fishery Management, Utah State University | 7 years BLM |
| J. R. Kalish | Fire Management | Arizona Strip District Office Outdoor Recreation Planner and Wilderness Specialist | B.S. Wildlife Management, University of Missouri | 1 ½ years BLM, 2 years National Park Service |
| R. D. Malcomson | Archaeology, Historical and Natural History | Arizona Strip District Office Archaeologist | B.A. University Studies (Anthropology and Archaeology), M.A. Anthropology and Education, University of New Mexico | 2 ½ years BLM, 1 year New Mexico State University Division of Cultural Resources Management |

# TABLE 6-1
# LIST OF PREPARERS

| NAME | EIS ASSIGNMENT | POSITION | EDUCATION | EXPERIENCE |
|---|---|---|---|---|
| H. K. McGinty | Editor and Technical Coordinator | Arizona State Office Writer-Editor | B.A. History, Duke University; M.A. Geography, Clark University; Certificate of Accomplishment in Editorial Practices, U.S. Department of Agriculture Graduate School | 3 ½ years BLM, 3 ½ years U.S. Geological Survey |
| V. L. Mortensen | Soils, Climate, Topography, Air Quality and Noise | Arizona Strip District Office Soil Scientist | B.S. Soil Science, Utah State University; Post Graduate Work, Iowa State University | 2 years BLM, 23 years Soil Conservation Service |
| K. L. Pearson | Sociology | Arizona State Office Social Scientist | B.A. History, Augustus College, Illinois; M.A. Anthropology, University of Arizona; Ph.D. Social Anthropology, University of Arizona | 4 years BLM, 7 years teaching in Arizona universities |
| J. A. Pranzo | Economics | Arizona State Office Regional Economist | B. A. Economics, minor Sociology, Hunter College; M.A. Economics, University of Pittsburgh; 1 year's study in Natural Resource Economics, Colorado State University | 3 years BLM, 5 years Army Corps of Engineers |
| R. W. Ray | Visual Resources, Draftsman and Cartographer | Arizona Strip District Office Landscape Architect | B.S. Environmental Studies Utah State University | 3 years BLM, 3 years Army Corps of Engineers |
| D. R. Sokal | Recreation | Arizona Strip District Office Outdoor Recreation Planner | B.S. Conservation Studies and B.S. Forestry, Southern Illinois University at Carbondale | 1 ½ years BLM |
| C. W. Swapp | Geology, Hydrology and Minerals | Arizona Strip District Office Natural Resource Specialist | B.S. Geology, Utah State University | 13 years BLM, 3 years Bureau of Reclamation, 10 years oil, gas, ground water and mineral exploration |
| M. J. Wilhelm | Wildlife, Threatened and Endangered Animals | Arizona Strip District Office Wildlife Biologist | B.S. Forest Range Management, Utah State University; M.S. Range Management, University of Arizona | 12 years BLM |
| C. K. Zufelt | BLM Utah Coordination | Cedar City (Utah) District Office, Utah Environmental Coordinator | B.S. Range Management and Botany, Utah State University | 10 years BLM |

# APPENDIXES

# APPENDIX 1
# SUMMARY OF MANAGEMENT AND DIRECTION

## PARIA CANYON PRIMITIVE AREA

1. Archaeology
    a. Continue the archaeological inventory of the entire canyon.
    b. Protect known archaeological values through public education, interpretation, visitor contact, and withholding site identification and location information.
2. Historical
    a. Interpret the story of John D. Lee in coordination with the National Park Service at Lees Ferry.
    b. Research and interpret the story of the Judd Hollow pump.
3. Lands
    a. Investigate State land inholdings and Water and Power Resource Service (WPRS) withdrawals to determine the best means for BLM to obtain complete jurisdiction.
    b. Minimize the visual impact of the 500-KV transmission line to be constructed across the northern end of the primitive area.
4. Minerals and Geology
    a. Interpret the area's geology in the Paria Canyon brochure.
    b. Before revoking withdrawals, segregate portions of the canyon not adequately withdrawn from mineral entry.
    c. Invalidate existing mining claims, when necessary.
5. Wildlife
    Cooperate with State wildlife agencies to determine how to increase opportunities for viewing wildlife.
6. Water
    a. Provide safe drinking water at the northern entrance to the primitive area.
    b. Show spring locations within the canyon on the brochure. Recommend that all water, including spring and river water, be boiled or treated before drinking.
    c. Investigate and monitor possible sources of pollution upstream on the Paria River.
    d. Develop drinking water at Wilson Spring to serve the lower 11 miles of the canyon.
7. Range
    a. Remove existing livestock use within the bottoms of the Buckskin Gulch and Wire Pass drainages. Remove livestock from all but the lower 11 miles of Paria Canyon.
    b. Require the permittee to remove the salt from its present location in Wire Pass drainage.
    c. Fence the east side of House Rock Valley Road and the Buckskin pasture of Mollie's Nipple allotment.
    d. Install a cattleguard on the House Rock Valley Road next to US 89A.
    e. In the Bunting Well allotment, place fences to keep cattle out of Paria Canyon. Also relocate the existing corral to a more satisfactory site. Develop a new water source on the rim to the east.
    f. Construct a drift fence across the canyon 11 miles upstream from Lees Ferry on the Lees Ferry allotment.
8. Recreation
    a. Implement a permit system for visitor use.
    b. Investigate and implement a warning system to alert visitors of possible flood danger.
    c. Maintain warning and information signs at the entrances to Wire Pass, Buckskin Gulch, and Paria Canyon.
    d. Require all visitors to travel from north to south through the Paria Canyon narrows.
    e. Study the carrying capacity of the canyon and closely monitor sanitation needs.
    f. Revise the Paria Canyon brochure to provide health and safety warnings, search and rescue instructions, management rules and regulations, interpretative information, and a usable map of the canyon.
    g. Search and Rescue
        1. Arrange a search and rescue agreement with Coconino and Kane County sheriffs.
        2. Negotiate a memorandum of understanding with the National Park Service at Page to provide for NPS assistance.
        3. In the brochure instruct the visitors on how to get outside assistance.
    h. Remove or minimize hazardous conditions in the canyon as they are identified.

- i. Periodically patrol the canyon to pick up garbage, and encourage visitors to leave the canyon cleaner than they found it.
- j. Permit no commercial services in the canyon.
- k. Discourage the use of horses or pack animals within the canyon; determine the impact of such use on the canyon and then take appropriate action.
- l. Close the canyon to motorized vehicles.
- m. Develop trailhead facilities at northern entrance points in Utah and coordinate with the National Park Service to develop entrance facilities at Lees Ferry.
- n. Install a sign at Judd Hollow prohibiting upstream travel.
- o. Improve roads to the northern trailheads.
- p. Construct trail segments in the lower 12 miles of the canyon.
- q. Keep accurate use information.

9. Hire and equip a visitor use supervisor and develop administrative facilities.
10. Develop site plans as needed.
11. Continue to collect information for updating this plan.

## PAIUTE PRIMITIVE AREA

In addition to the general objectives found in 43 CFR subpart 6221 the Paiute Primitive Area Management Plan sets forth the following objectives:

1. Access
   Provide good access to the boundaries of the area. Make area readily accessible to visitors from the Virgin River Campground.
   - a. Roads
     Provide no more road access to the area since the existing roads are adequate.
   - b. Trailheads
     Provide two major access points by developing trailheads at lower Sullivans Canyon on the north and a quarter mile south of Littlefield Reservoir at the head of Cottonwood Wash on the south. Develop secondary trailheads at the Sullivans Rim, the head of the east fork of Sullivans Canyon, at Cougar Spring in Cottonwood Wash, at the rock corral on the west side of Hancock Canyon, and at the mouth of Figure Four Canyon.
2. Development Level
   Keep development to a minimum.
   - a. Water
     Provide as much water for visitors as possible by redeveloping five existing springs and installing a special design water catchment just north of the primitive area boundary in lower Sullivans Canyon.
   - b. Trails
     Have visitors use existing trails rather than construct new trails within the primitive area.
   - c. Campsites
     Direct the use of campsites along the Virgin Ridge. Maintain the campsites in as natural a condition as possible. Regulate the use of campfires by providing handmade rock fire circles at the main campsites.
   - d. Interpretation
     Enhance the visitor's experiences by interpreting the geology, plants, and animals of the area. Provide opportunities for environmental study.
3. Visitor Use
   - a. Types of Use
     Provide for sightseeing, backpacking, hiking, hunting, nature study, rock collecting, and mountain climbing.
   - b. Capacity
     Determine a carrying capacity that will continue to provide a quality experience on a sustained yield basis.
   - c. Use Regulations
     Formulate use regulations that adequately protect resources and do not overly restrict visitors.
   - d. Firewood Policy
     Clarify and publicize the management policy on use of firewood and provide this information to the user.
4. Other Resource Uses
   - a. Recreation Objectives for Wildlife
     Provide a diverse wildlife population. Increase opportunities for visitors to see and hear a variety of wildlife species.
   - b. Recreation Objectives for Livestock
     Reduce or eliminate conflict or potential conflict between livestock and recreation use of the area.
   - c. Recreation Objectives for Minerals
     Protect the scenic quality of the area. Provide an opportunity for rock collecting in the area.
   - d. Recreation Objectives for Watershed
     Stabilize the watershed. Restore eroded sites to a stable watershed condition.
   - e. Recreation Objectives for Fire Control
     Establish a clear-cut policy for fire control.
5. Safety (Visitor Protection)
   Have help available in the event of serious injury or death, but do not attempt to protect the visitor from natural hazards, since the primitive area concept implies that a person in wild country must depend on his own skills.

# APPENDIX 2

# WILDERNESS INVENTORY

# REPORT

# PRELIMINARY FINDING OF WILDERNESS CHARACTERISTICS

Paria Canyon Primitive Area
and
Contiguous Roadless Areas

Utah

Cedar City District

Bureau of Land Management

## Instant Study Area Status of the Paria Canyon Primitive Area

The canyons of the Paria River and Kaibab Gulch were designated as the Paria Canyon Primitive Area by the Secretary of the Interior on January 10, 1969. Section 603(c) of the Federal Land Policy and Management Act of 1976 (FLPMA) provides that

> the Secretary [of the Interior] shall report to the President by July 1, 1980, his recommendations [as to the suitability or nonsuitability for preservation as wilderness] on those areas which the Secretary prior to November 1, 1975, formally identified as natural or primitive areas.

In the legislative history of FLPMA, House Report 94-1163 of May 15, 1976, specifically identified the Paria Canyon Primitive Area as an area "formally identified as natural or primitive prior to November 15, 1975" and stated that the Paria Canyon Primitive Area report should be made prior to July 1, 1980. The Paria Canyon Primitive Area thus is under the accelerated review provision of FLPMA. Because the reporting deadline for all other BLM wilderness study areas is 1991, these natural and primitive areas are referred to as Instant Study Areas (ISA's).

## Instant Study Area Review Procedures

The Federal Land Policy and Management Act requires that a review of the wilderness suitability of an Instant Study Area be conducted and that a recommendation as to the suitability or nonsuitability of the ISA for preservation as wilderness be reported to the President. The suitability or nonsuitability recommendation is made after a careful analysis and review of all values, resources, and uses of the ISA. Prior to the suitability analysis of the ISA, an intensive study is made of the ISA to determine whether the area has wilderness characteristics as described in the Wilderness Act of 1964.

Wilderness characteristics inventory policies for all Instant Study Areas are set forth in the Draft Procedures for Wilderness Review of Primitive and Natural Areas Formally Identified by the BLM Prior to November 1, 1975 document of March 1979. Under the Basic Policy section of the Procedures the following policy guidance is offered:

> The equivalent of an intensive inventory will be conducted on each ISA to determine whether the ISA has wilderness characteristics. In this determination responsibilities are the same as in the Wilderness Inventory Handbook.

and

> Roadless public land contiguous to ISA's should also be reported with the ISA's where it is logical and can be accomplished without detracting from the schedule necessary to meet the July 1, 1980, reporting deadline to the president.

## Roadless Areas Contiguous to the Paria Canyon Primitive Area in Arizona and Utah

The Paria Canyon Primitive Area is located in Arizona and Utah. The total size of the designated Primitive Area is 27,515.17 acres. Approximately 69 percent (18,909.62 acres) of the Primitive Area is in Arizona. The remaining 31 percent (8,605.55 acres) is in Utah. A different interstate perspective is evident when streambed and canyon bottoms are considered. Approximately 42 miles of canyon hiking opportunity is present within the Primitive Area in either the Paria Canyon or the Kaibab Gulch (The Buckskin, The Dive). Kaibab Gulch is entirely within Utah. Twentyfour miles (57 percent) of this canyon hiking mileage is located in the Utah portion of the Paria Canyon Primitive Area. The Paria Canyon region is depicted on Map 1.

After a review of the interstate situation by the Arizona and Utah BLM State Offices and the Arizona Strip and Cedar City District Offices, it was decided that it was both logical and appropriate to inventory wilderness characteristics of the roadless public lands in Utah contiguous to the Primitive Area in conjunction with the Instant Study Area study. Map 2 locates the various Bureau of Land Management wilderness review units identified in the Paria Canyon region. In Arizona, the inventory of wilderness characteristics of contiguous lands will be accomplished during the Inventory Phase (Initial-Intensive) of the Wilderness Review process as outlined in the Wilderness Inventory Handbook (the Blue Book). This decision is depicted on the Wilderness Inventory-State of Utah map issued by the Utah State Director on April 4, 1979 and the Proposals for Intensive Inventory-Arizona BLM Wilderness Review map issued by the Arizona State Director on April 24, 1979.

Various considerations contributed to the decision to conduct an Instant Study Area wilderness characteristics inventory of the contiguous lands in Utah. The designated Primitive Area in Utah does not include major portions of the Kaibab Gulch Canyon and the canyon of Judd Hollow. These Utah areas are topographically associated with the canyon system of the Paria Canyon Primitive Area rather than the surrounding uplands. In Arizona, the designated Paria Canyon Primitive Area does include much of Judd Hollow and the entire Paria River Canyon.

Contiguous roadless public lands in Arizona are associated with Paria Plateau rather than the Paria River Canyon system. One of the Inventory Units on the Paria Plateau (Arizona 010-008) is an extremely large (125,105 acres) horseshoe-shaped unit that is contiguous to two Instant Study Areas--the Vermilion Cliffs Outstanding Natural Area and the Paria Canyon Primitive Area. Neither of these ISA's is representative of the Paria Plateau. Inventory Unit AZ-010-006 (26,982 acres) is associated with the Ferry Swale area of the Paria Plateau rather than the Paria Canyon. Because of the topographic dissimilarities between the Paria Plateau and the Vermilion Cliffs or Paria Canyon in Arizona, it is logical and appropriate to identify the contiguous areas as Intensive Inventory Units. Furthermore, it is doubtful that an intensive wilderness characteristics inventory of these units could be accomplished without detracting from the schedule necessary to meet the July 1, 1980, Instant Study Areas reporting deadline.

Section 11 of the Public Law 93-531 of December 22, 1974, states that the Secretary of the Interior is authorized and directed to transfer not to exceed 250,000 acres of lands under the jurisdiction of the Bureau of Land Management within the states of Arizona or New Mexico to the Navajo Tribe. Public Law 93-531 does not apply to BLM lands in Utah. On May 5, 1975, application was made by the Navajo Indian Tribe for purchase of BLM lands on the Paria Plateau and in the House Rock Valley. After receiving the tribal application, the BLM Arizona State Office prepared an Environmental Analysis Record which addressed not only the Paria Plateau-House Rock Valley site but also six other sites. One of these six sites--the so-called Ferry Swale site--included the portion of the Paria Plateau east of the Paria Canyon and the House Rock Valley.

The 1975 application by the Navajo Nation excluded the Paria Canyon Primitive Area and the Vermilion Cliffs Outstanding Natural Area. However, contiguous roadless area AZ-010-008 constitutes a major portion of the application. Contiguous roadless area AZ-010-006 northeast of the Paria Canyon is within the Ferry Swale alternative.

The Navajo Nation application for the roadless area contiguous to the Paria Canyon Primitive Area has not been withdrawn. The status of these contiguous lands in Arizona remains ambiguous. Because Public Law 93-531 excludes Utah, it was considered appropriate to inventory the wilderness characteristics of the contiguous Utah lands during the conduct of the Instant Study Area study. Because of the unresolved status of the contiguous lands in Arizona, an Intensive Inventory of wilderness characteristics was considered more appropriate.

A wilderness characteristics inventory of the designated Paria Canyon Primitive Area in Arizona was conducted during the ongoing wilderness suitability study of the Paria Canyon Primitive Area, Paiute Primitive Area, and Vermilion Cliffs Outstanding Natural Area. A preliminary finding is that the entire Paria Canyon Primitive Area in Arizona possesses wilderness characteristics as described in the Wilderness Act of 1964. Public review and comment on this finding will be accomplished during the planning review of the Arizona Strip District's Coconino Unit Resource Analysis and Vermilion Management Framework Plan and during the public review of the Draft Environmental Statement for the Instant Study Area.

The Initial Inventory recommendation for Arizona Inventory Units 010-006, 010-007, and 010-008 on the Paria Plateau is that these units should undergo an intensive field inventory of wilderness characteristics. The comment period on recommendations is open from April 24 to July 23, 1979.

In Utah, a wilderness characteristics inventory of both the designated Paria Canyon Primitive Area and the contiguous roadless lands has been conducted. This report describes the findings of the Utah wilderness characteristics inventory.

### Wilderness Characteristics Inventory Procedures

The Instant Study Areas Procedures document states that

> If contiguous roadless areas are to be studied along with the ISA, the boundary for the contiguous roadless area will be established consistent with the intensive inventory policies set forth in the Wilderness Inventory Handbook.

The Procedures further state that

> the intensive inventory procedures described in the Wilderness Inventory Handbook will be used to determine whether the ISA's (and where appropriate, contiguous roadless public lands) have wilderness characteristics. A minimum of 30 days will be allowed for public comment on the proposed inventory results. After analysis of public review comments, the District Manager or appropriate official will make final recommendations to the State Director. The State Director will publish his decision in local, regional, etc., media, as well as the Federal Register. The State Director's decision will become final 30 days after publication in the Federal Register.

The Utah inventory area is depicted on Maps 3a and 3b. The designated Primitive Area portion of the review area is also depicted on Map 3a. The map base is a composite copy reduction of three 15' USGS topographic quadrangles--Telegraph Flat, Paria, and Nipple Butte. The original quadrangles should be consulted if more detail is desired.

The boundaries of the inventory area were determined by the region's existing road network, the distribution of non-public lands, and the Arizona-Utah state line. These roads and the land ownership pattern are located on Map 4.

The total size of the inventory area is 46,799 acres. There are 44,839 acres of public lands within the inventory area. As indicated on Map 5, the inventory area contains six roadless areas contiguous to the designated Primitive Area. The size and public lands acreage for each of the contiguous area is listed below:

| | Size | Public Lands |
|---|---|---|
| Contiguous Area A | 249 acres | 249 acres |
| Contiguous Area B | 21,971 acres | 20,021 acres |
| Contiguous Area C | 4,000 acres | 4,000 acres |
| Contiguous Area D | 196 acres | 196 acres |
| Contiguous Area E | 105 acres | 105 acres |
| Contiguous Area F | 11,672 acres | 11,672 acres |
| Total - Contiguous Areas | 38,193 acres | 36,313 acres |
| Paria Canyon Primitive Area | 8,606 acres | 8,526 acres |
| Total - Inventory Area | 46,799 acres | 44,839 acres |

The analysis of wilderness characteristics was conducted for the entire review area. During the analysis, no distinction was made between the Paria Canyon Primitive Area and contiguous areas or between individual contiguous areas. The guidelines found on pages 12-14 and in Appendix 5 of the Wilderness Inventory Handbook were utilized in the inventory.

The objective of the inventory was to determine which areas within the review area have the wilderness characteristics described in the Wilderness Act of September 3, 1964 and which areas lack these characteristics. Section 2(c) of the Wilderness Act of 1964 states that

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Section 2(c) thus identifies three wilderness characteristics:

1. Naturalness ("the imprint of man's work is substantially unnoticeable").
2. Outstanding opportunity for solitude.
3. Outstanding opportunity for a primitive unconfined type of recreation.

Section 2(c) also qualifies these characteristics by stating that a wilderness must contain the "naturalness" characteristic and either the "solitude" or "primitive recreation" characteristic.

The distribution of the naturalness characteristic within the inventory area was mapped initially. The solitude and primitive recreation characteristics were then mapped within the areas possessing naturalness. Resulting areas that possessed naturalness but lacked both of the other characteristics were determined to not have wilderness characteristics as described in the Wilderness Act. Areas that possessed naturalness and one or both of the other characteristics were determined to have wilderness characteristics.

### Description of Inventory Area

The inventory area exhibits a diversity of topographic forms and features. The western portion of the area contains the lower portion of The Cockscomb. The Cockscomb is a ridge which reaches its fullest prominence approximately ten miles north of the inventory area. Near the Arizona state line, The Cockscomb merges with the sandstone outcroppings of the scenic Coyote Buttes area. Steamboat Rock represents the northeastern extension of the Coyote Buttes area. At 5,548 feet, Steamboat Rock is the highest elevation in the western portion of the inventory area. Kaibab Gulch enters the area at The Cockscomb and forms a canyon on the east side of this ridge. The Wire Pass canyon also cuts through The Cockscomb and joins Kaibab Gulch approximately 1½ miles above the Arizona state line.

West Clark Bench is a major topographic feature of the northern portion of the western inventory area. The upper portion of West Clark Bench is a broken eroded area. The lower portion is characterized by sandy benchlands above the Kaibab Gulch canyon.

Kaibab Gulch (The Buckskin) is a major feature of the Paria Canyon Primitive Area. The Dive or inner canyon of The Buckskin is an extremely narrow 12 mile section of the canyon. After leaving The Cockscomb, The Buckskin runs eastward to its confluence with the Paria River canyon immediately above the Arizona state line. The north side of The Buckskin canyon consists of sandstone benches and rims which drop off from West Clark Bench. The southern side of the canyon forms a rim which joins the Coyote Buttes area and the Poverty Flat area of the Paria Plateau.

The Paria River canyon entrenches approximately three miles below the northern boundary of the inventory area. The Narrows section begins about 2½ miles above the confluence with The Buckskin. Bridger Point is an extension of the Flat Top above the confluence.

The Cedar Mountain-Judd Hollow drainage is a major feature of the eastern portion of the inventory area. Cedar Mountain is associated with the Ferry Swale section of the Arizona Paria Plateau northeast of the Paria Canyon. The Judd Hollow drainage begins at Cedar Mountain and enters the Paria Canyon approximately four miles west of Cedar Mountain. The lower portion of Judd Hollow possesses a sandstone rim which is continuous with the southern rim of the Flat Top. The easternmost section of the review area is associated with the ridges and sandy valleys and flats of the Wahweap arm of Lake Powell.

### Naturalness Wilderness Characteristic

Evidences of man identified in the inventory area are located on Maps 6a and 6b. These intrusions were examined in the field to determine if their individual appearances were substantially noticeable or if their cumulative effect would influence the area's degree of naturalness. In many instances, the significance of the imprint of man was associated with the topographic or vegetative setting of the intrusions. In general, the intrusions in the area are located in the more gentle topographies. In the rougher terrains which also possess highly scenic supplemental wilderness values, intrusions are usually absent.

Portions of the West Clark Bench section of the review area possess the naturalness characteristic. Other parts of West Clark Bench do not. The entry area to the main Paria Canyon clearly lacks naturalness. This area is identified as Area B on Map 7a. It contains 873 acres of public lands.

The central part of West Clark Bench also lacks naturalness because of the individual and cumulative effects of stock watering developments, the Navajo-McCullough transmission line, and numerous grazing access roads. Intrusions are also highly visible in this area because of the lack of topographic relief and vegetative screening. This area is identified as Area B on Map 7a and contains 2,863 acres of public lands.

The easternmost portion of West Clark Bench also lacks the naturalness characteristic. This area is labeled Area C on Map 7a. The area is small and does not include the rough breaks immediately to the west. The intrusions that are present are noticeable in this particular physical setting. The area includes 940 acres of public lands.

The Navajo-McCullough transmission line and the Long Canyon road have isolated a small area in the extreme northwestern portion of the review area. This area was determined to lack the naturalness characteristic. This area is identified as Area D on Map 7a and contains 50 acres of public lands.

Two entrance area flats to the Buckskin and Wire Pass Canyons are located between the Cockscomb and House Rock-Wire Pass Road. These small areas contain livestock developments that are substantially noticeable because of the relatively flat physical settings. These areas are identified as Areas E and F on Map 7a and contain 146 and 54 acres, respectively, of public lands.

In the eastern portion of the review area, intrusions are conspicuous in the Wahweap drainage and in the upper Judd Hollow-Cedar Mountain area. Major noticeable evidences of man in this area include the parallel Navajo-McCullough 500 KV and Garkane Tower Association transmission lines (four miles) and service road, and a Utah Power and Light 230 KV transmission line (four miles). In the upper Judd Hollow-Cedar Mountain region, livestock developments such as water tanks, fences, corrals, and access roadways are also present. When combined with the significant imprints of the transmission lines, the cumulative effect of the range development intrusions becomes significant. The area in which the imprint of man is significantly noticeable extends from the eastern Highway 89 boundary to the sandstone rim of lower Judd Hollow. This area lacking the naturalness characteristic is identified as Area G on Map 7b. The area includes 10,008 acres of public lands.

No intrusions are present in the lower Judd Hollow area and the Flat Top-Judd Hollow rim area. Furthermore, the intrusions elsewhere in the review area are not visible from this area. This area was thus determined to possess the naturalness characteristic.

A total of 14,934 acres of public lands were identified as not possessing the wilderness characteristic of naturalness. Seven tracts of land are included that range in size from 50 to 10,008 acres.

### Outstanding Opportunity for Solitude Wilderness Characteristics

Areas which lacked outstanding opportunity for solitude were identified within the areas possessing naturalness. The standard for determining whether an opportunity for solitude was outstanding was the type of solitude offered by the canyon system of The Buckskin and Paria River and the ridge and canyon system of The Cockscomb. Solitude in these areas was judged to be outstanding in character. This determination is substantiated by Paria Canyon Primitive Area visitor comments. These comments indicate that outstanding opportunities for solitude are inherent in the Paria Canyon system topography. When a lack of solitude has been noted, it was attributed to use patterns and management regulation of party size, number of parties, or allocation of campsites.

The lower Judd Hollow area possesses outstanding opportunity for solitude. Because the rim of lower Judd Hollow is actually the rim of the Paria Canyon, Judd Hollow properly belongs to the Paria Canyon system and meets the outstanding standard.

The Coyote Buttes area represents an extension of The Cockscomb-Buckskin Gulch area. The small area of the Paria Plateau east of Steamboat Rock and the Coyote Buttes merges with the ill-defined rim of The Dive. Because of the topographic similarities with the Kaibab Gulch - The Cockscomb area, these two areas were determined to possess outstanding opportunities for solitude.

Portions of the West Clark Bench area were judged to possess outstanding opportunities for solitude. In other portions, the opportunity is not outstanding. The rough breaks area in the upper part of West Clark Bench possesses opportunity for solitude. However, the solitude in this area cannot be considered to be outstanding when compared to the canyons of The Buckskin or Paria River, or to The Cockscomb. This area is designated as Area A on Map 8 and contains 5,993 acres of public lands.

It would be difficult to achieve outstanding opportunities for solitude on the sandy benchlands area of West Clark Bench above the well-defined north rim and slickrock areas of The Dive and the entrenched portion of the Paria Canyon. This area is identified as Area B on Map 8. It contains 2,541 acres. Outstanding opportunities are available in areas below the 5,400 feet contour line of The Dive rim area. Near the Paria River, outstanding opportunities are available within the designated Primitive Area.

The triangular shaped area of West Clark Bench between The Cockscomb and The Buckskin was determined to possess outstanding opportunities for solitude because it is wedged between these two features.

A total of 8,534 acres of the area possessing the naturalness characteristic were determined to lack outstanding opportunity for solitude. The area lacking outstanding solitude is associated with West Clark Bench.

### Outstanding Opportunity for a Primitive Unconfined Type of Recreation

Areas which lacked an outstanding opportunity for a primitive, unconfined type of recreation were identified within the areas possessing naturalness. The standard for determining whether an opportunity for primitive recreation is outstanding is based upon the current type of use that occurs within the Paria Canyon Primitive Area. Observation and visitor comments indicate that backpacking in the Paria and The Buckskin canyons, exploration of side canyons and adjoining sandstone outcroppings and benches during a backpacking trip, and sightseeing for scenic geology during the backpacking trip are the activities most frequently pursued. Visitor comments indicate that the opportunity for these activities is perceived as outstanding within the canyon system and associated slickrock areas. It is this particular terrain type that contributes the outstanding quality to the primitive recreation opportunity.

The West Clark Bench area lacks the entrenched canyons and sandstone expanses and outcroppings. This area is identified as Area A on Map 9 and was determined to lack outstanding opportunity for primitive and unconfined recreation. It contains 9,988 acres of public land.

Two areas in the vicinity of Bridger Point at the edge of the Flat Top also lack these terrain features. The outstanding opportunity for primitive recreation is assumed to be present as the rim of the Paria Canyon is approached. These two areas are identified as Area B on Map 9. They contain 361 acres.

The Paria Plateau extension into the area south of The Dive is also lacking in physical features that would contribute to an outstanding primitive recreation opportunity. This area is labeled Area C on Map 9 and contains 2,446 acres of public lands.

A total of 12,794 acres of public land within the area possessing the naturalness characteristic lack the wilderness characteristic of outstanding primitive recreation opportunity. The areas lacking outstanding primitive recreation opportunities are found on West Clark Bench, the Paria Plateau, and the Flat Top. The canyons of The Buckskin and Paria River, The Cockscomb, and the Coyote Buttes area all possess this wilderness characteristic.

### Area Possessing Wilderness Characteristics as Described in the Wilderness Act

The area possessing those wilderness characteristics as described in the Wilderness Act is outlined on Map 10. This area possesses the naturalness characteristic and one or both of the solitude and primitive recreation characteristics. The area contains 21,470 acres of public land. The areas not possessing wilderness characteristics contain 23,468 acres of public land. All of the designated Paria Canyon Primitive Area in Utah (8,526 acres) is within the area with wilderness characteristics. Of the 36,313 acre contiguous roadless area, 12,944 acres or 35.6 percent of the contiguous area possess wilderness characteristics.

## Public Comment Period

Beginning on June 20, 1979 and through July 20, 1979, the public is invited to review this report and provide written comments on the wilderness characteristics of the review area. Written comments should be mailed to

Cedar City District Manager
Bureau of Land Management
1579 North Main Street
Cedar City, Utah 84720

(801) 586-2401

Further information about the wilderness characteristics inventory may be obtained from the Cedar City District Office. Copies of this report are also available at

Bureau of Land Management
6400 Valley Bank Center
Phoenix, Arizona 85073

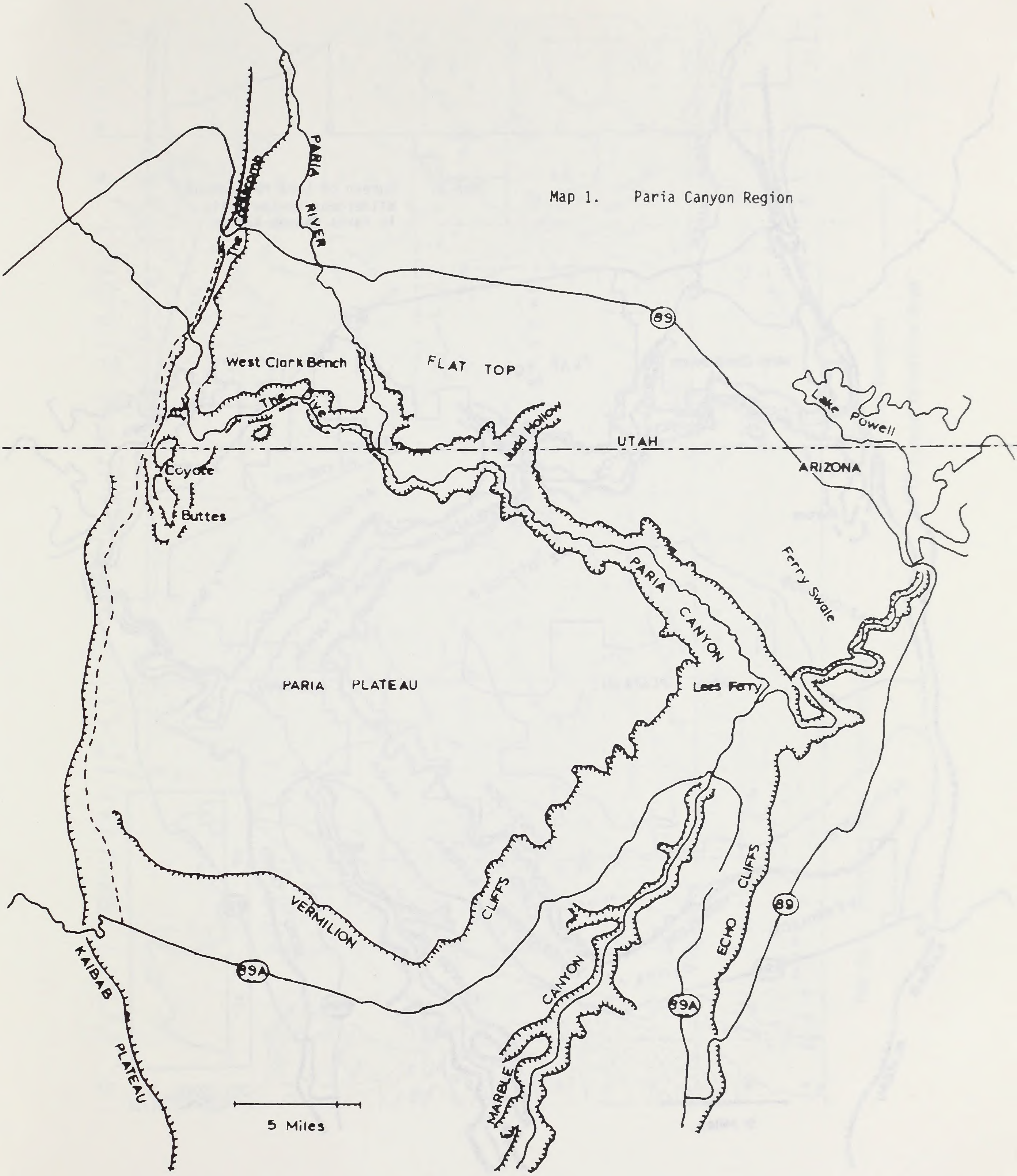
Bureau of Land Management
Arizona Strip Office
196 East Tabernacle
St. George, Utah 84770

State Director, Attention Wilderness
Bureau of Land Management
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

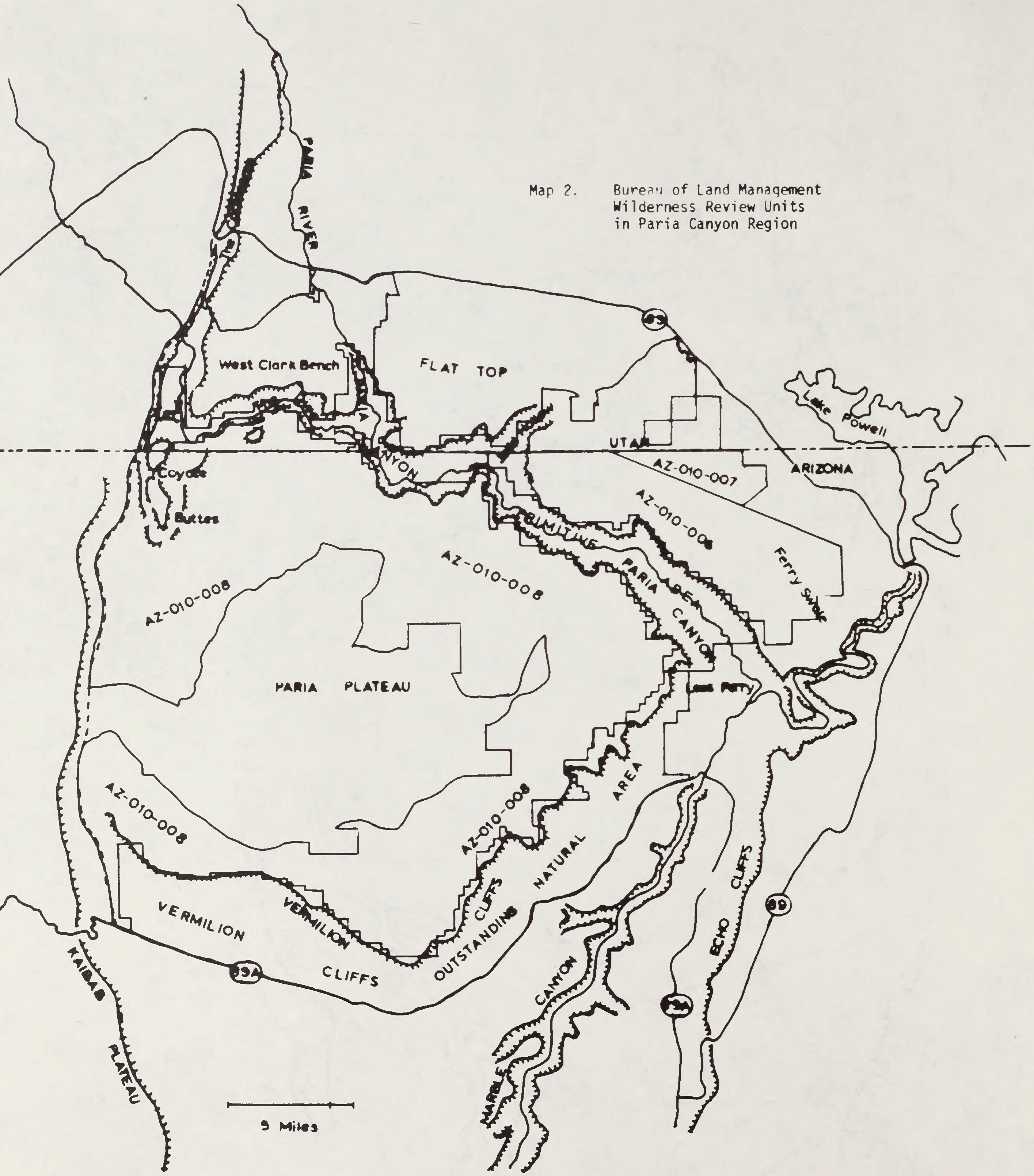
After analysis of public review comments, the Cedar City District Manager will make a final recommendation to the Utah State Director. The State Director will then publish his wilderness characteristics decision in the Federal Register. This decision will become final 30 days after publication.

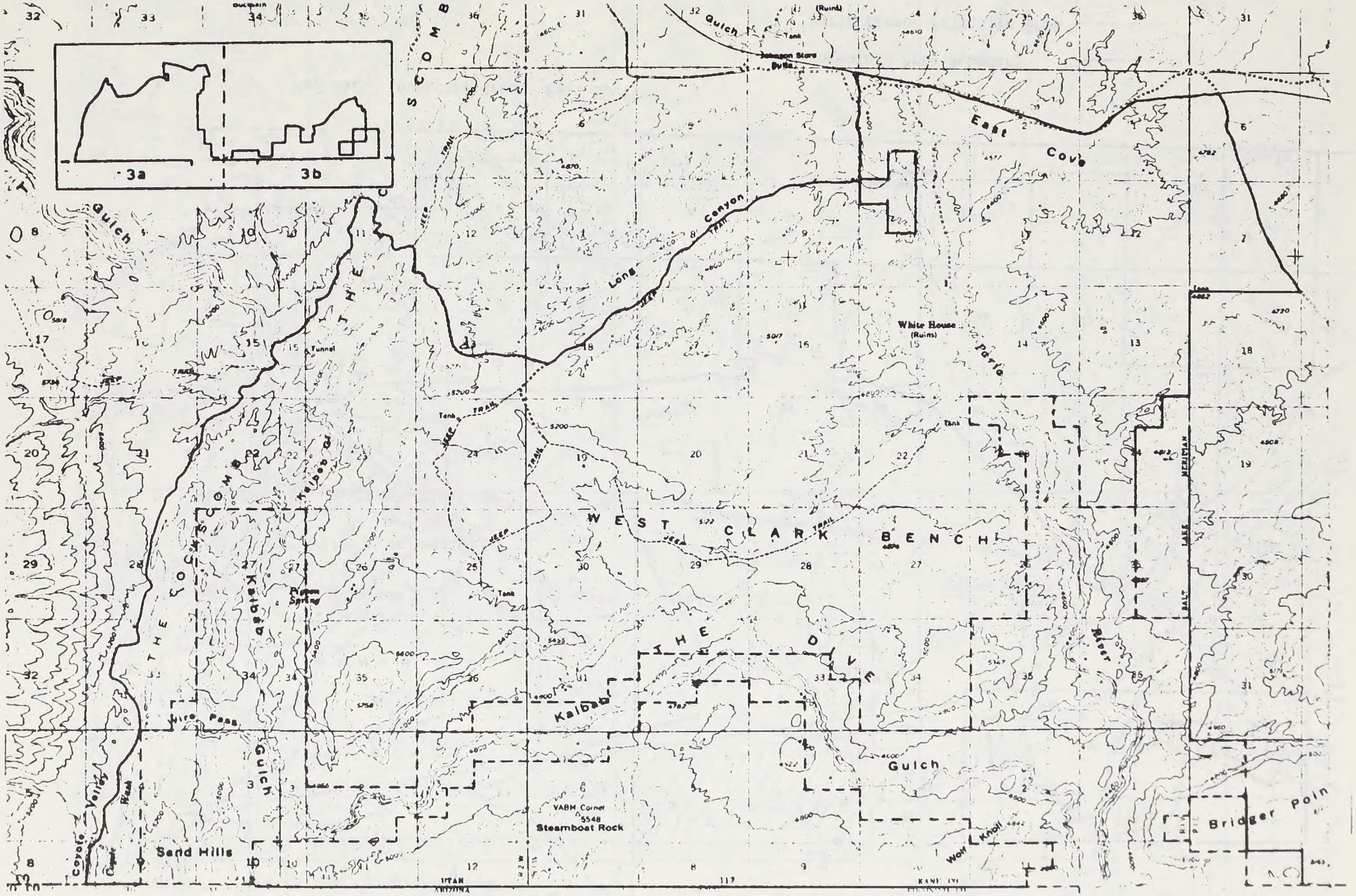
The portion of the review area determined to possess wilderness characteristics will be studied in order to make recommendations on its suitability or nonsuitability for preservation in the Wilderness System. Any portions of the contiguous roadless area not possessing wilderness characteristics will be released from the contraints of interim protection as set forth in section 630(c) of the Federal Land Policy and Management Act. All of the designated Paria Canyon Primitive Area will remain under 603(c) interim protection until Congress determines otherwise.

Map 1. Paria Canyon Region



Map 2. Bureau of Land Management Wilderness Review Units in Paria Canyon Region

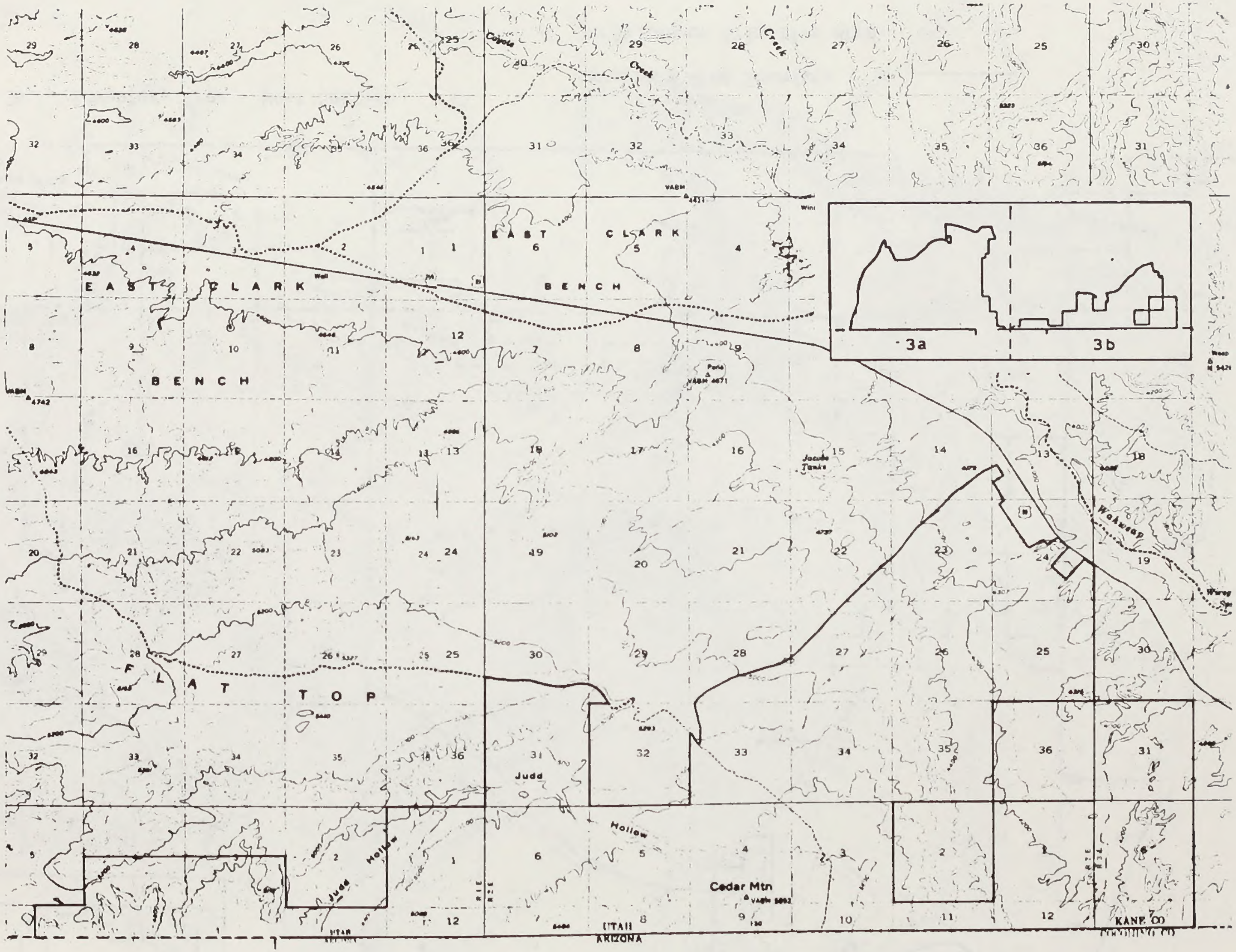




Map 3a. Inventory Area - West Section

Inventory Area Boundary ———

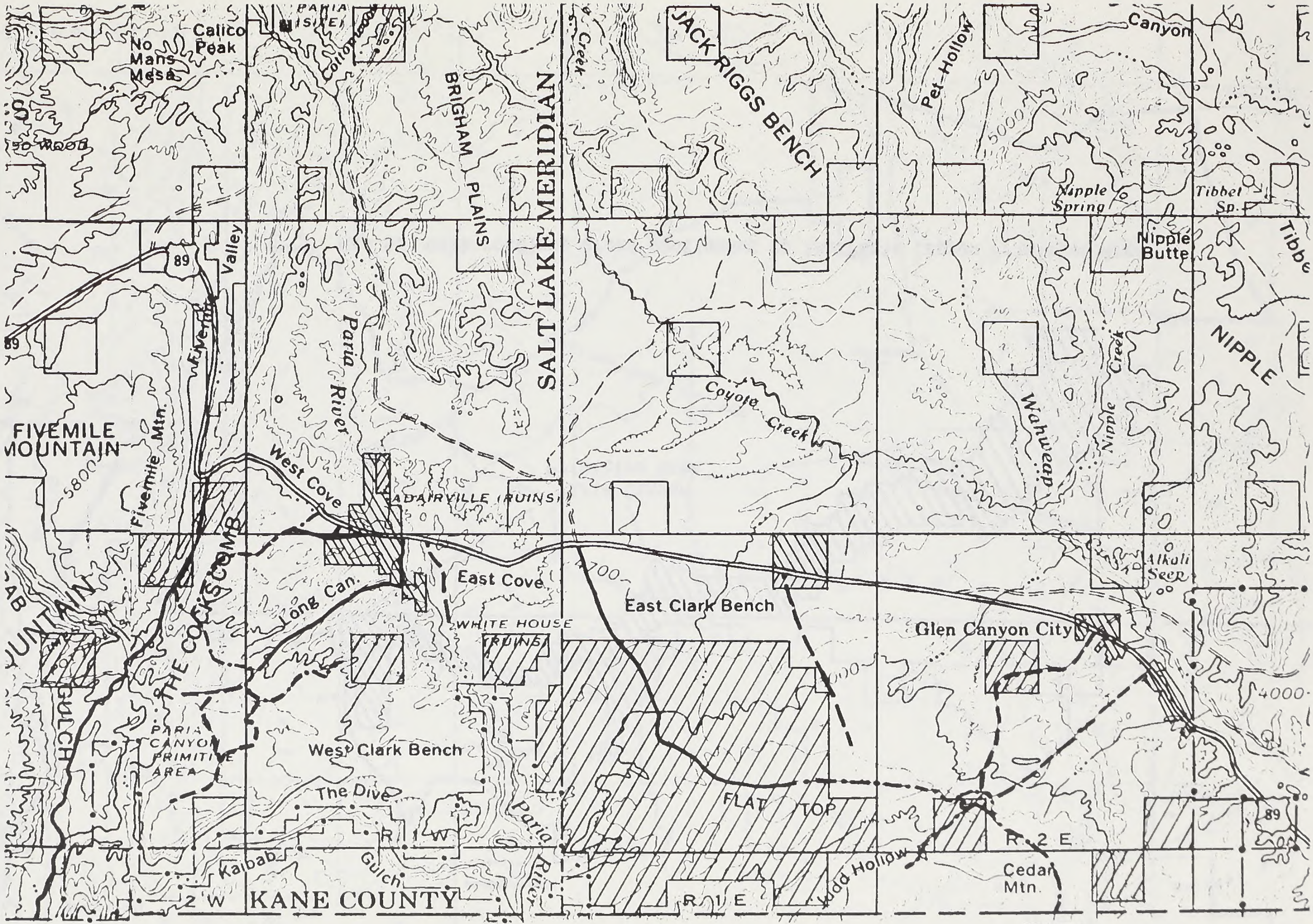
Paria Canyon Primitive Area - - - - - - -



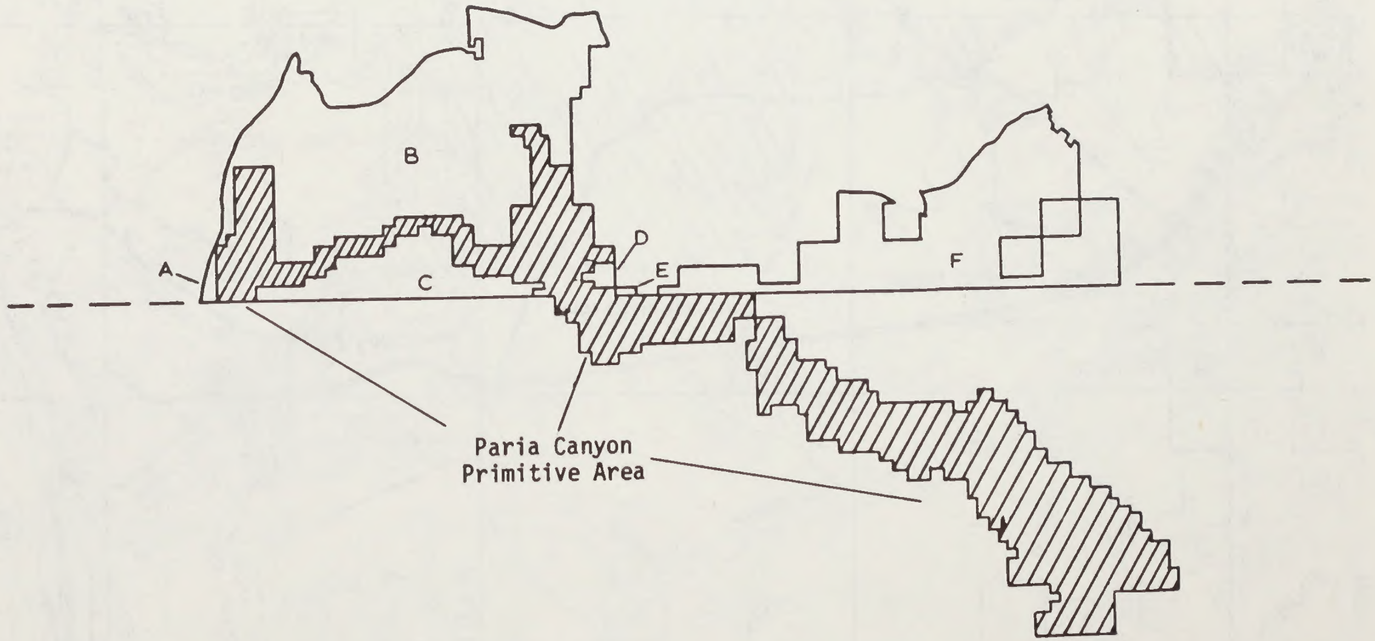
Map 3b. Inventory Area - East Section

Inventory Area Boundary ———

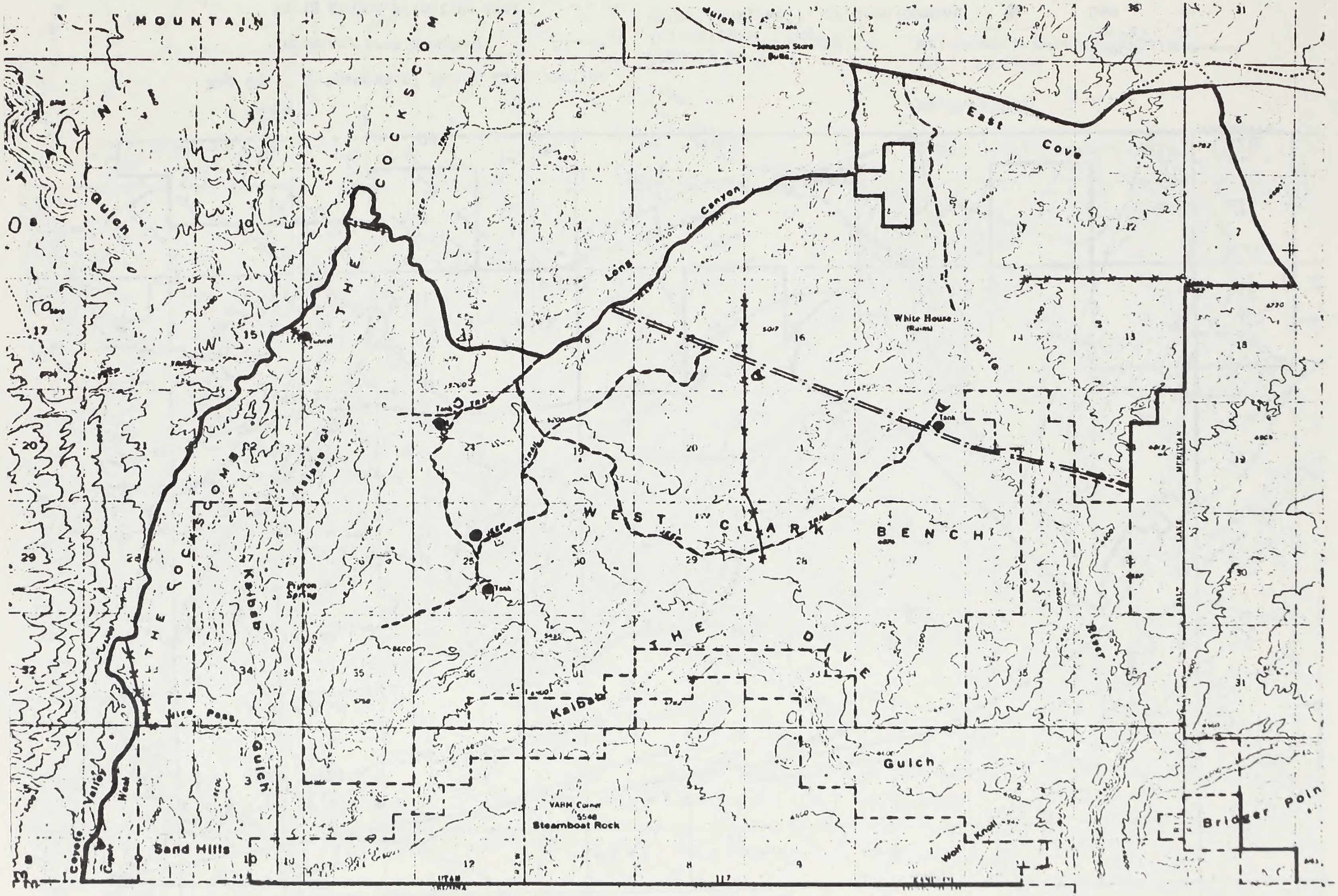
Paria Canyon Primitive Area - - - - - -



Map 4. Roads and Land Ownership

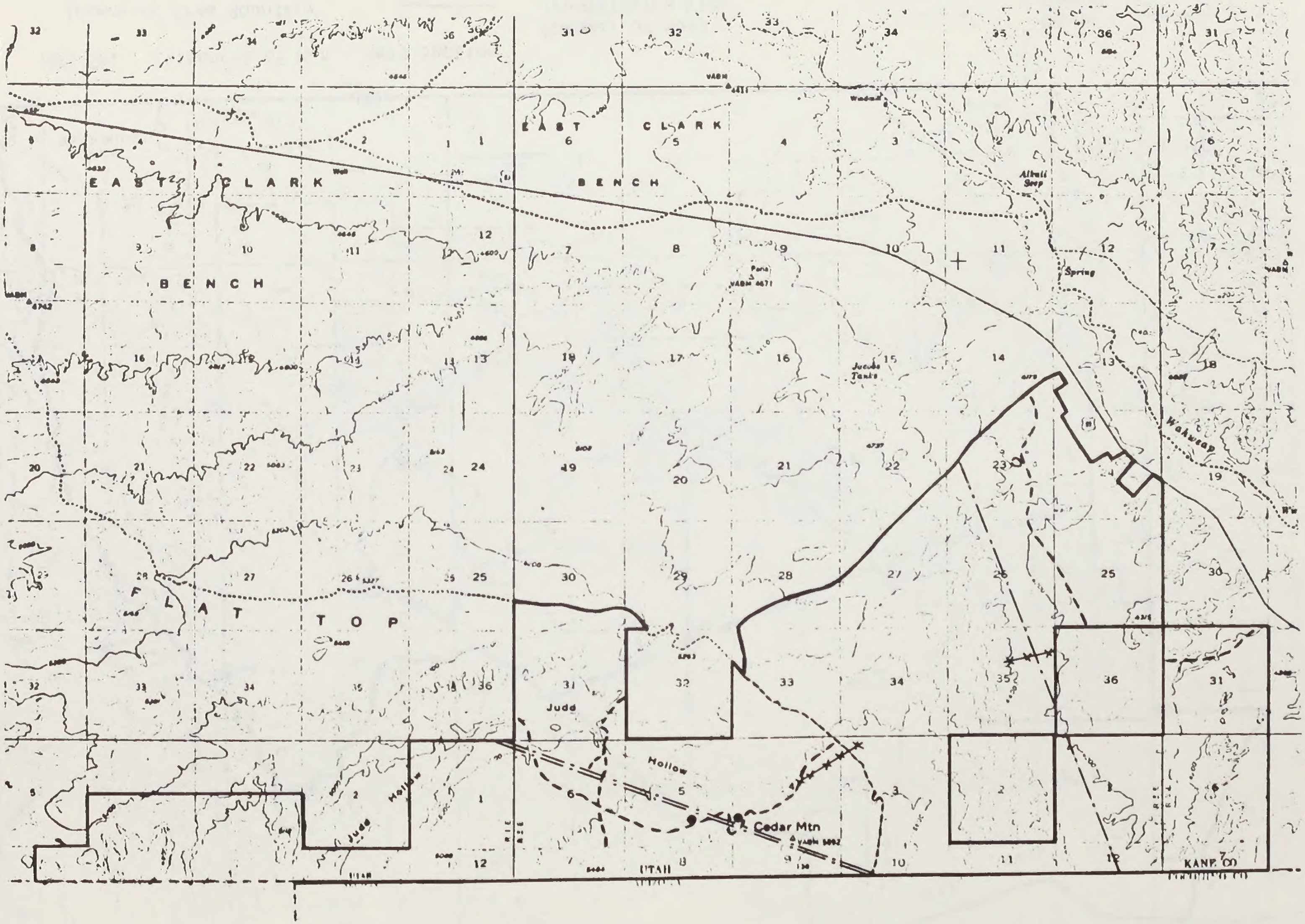


Map 5. Utah roadless areas contiguous to the Paria Canyon Primitive Area



Map 6a. Evidences of Man - West Section

Inventory Area Boundary ———
Paria Canyon Primitive Area - - - - - - -
Roadway or Road - - - -
Transmission Line —·—
Water tank, well, or development ●
Fence ✕✕✕✕
Corral
Dam



Map 6b. Evidences of Man - East Section

Inventory Area Boundary ———

Paria Canyon Primitive Area - - - - - -

Roadway or Road - - - -

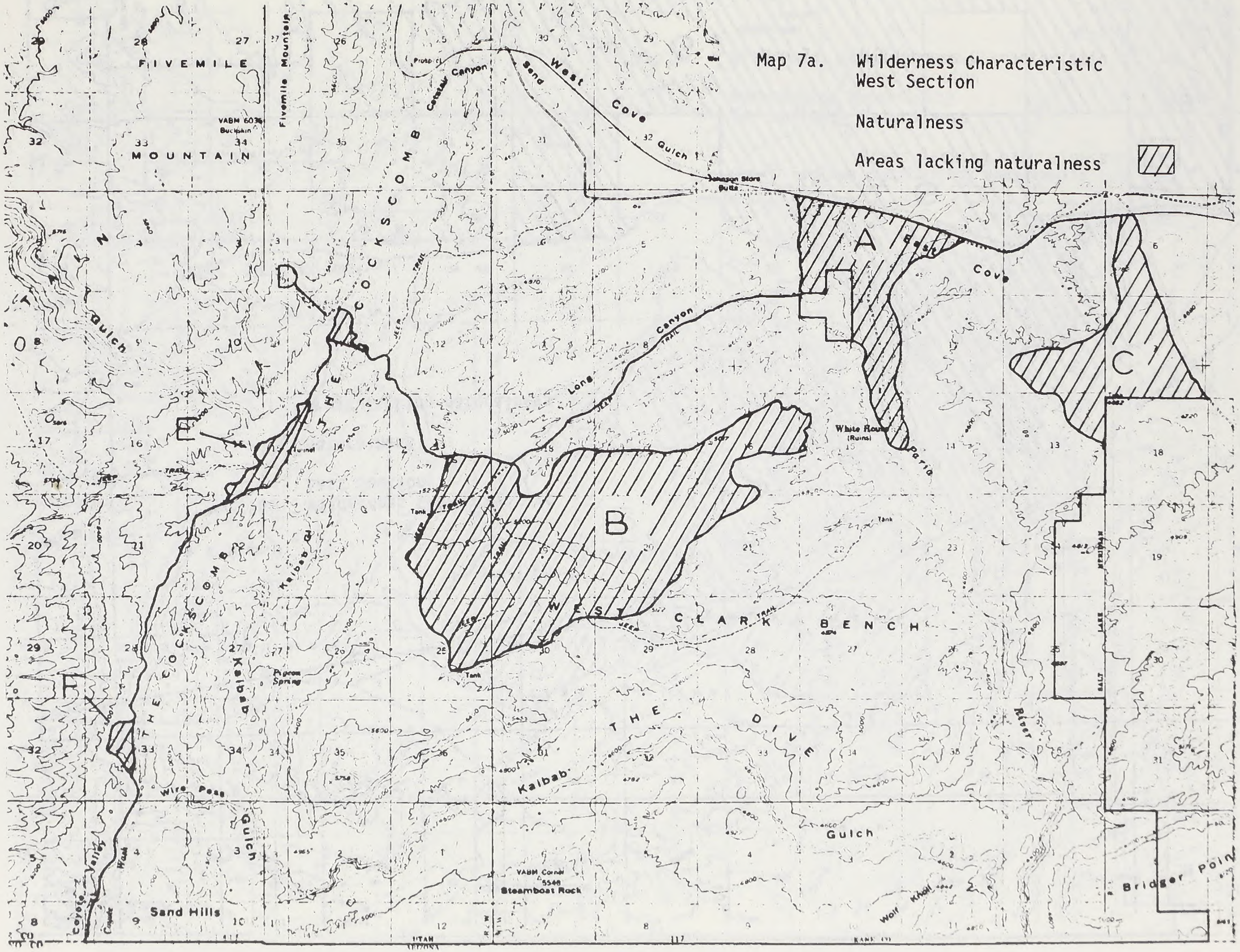
Transmission Line —·—

Water tank, well, or development ●

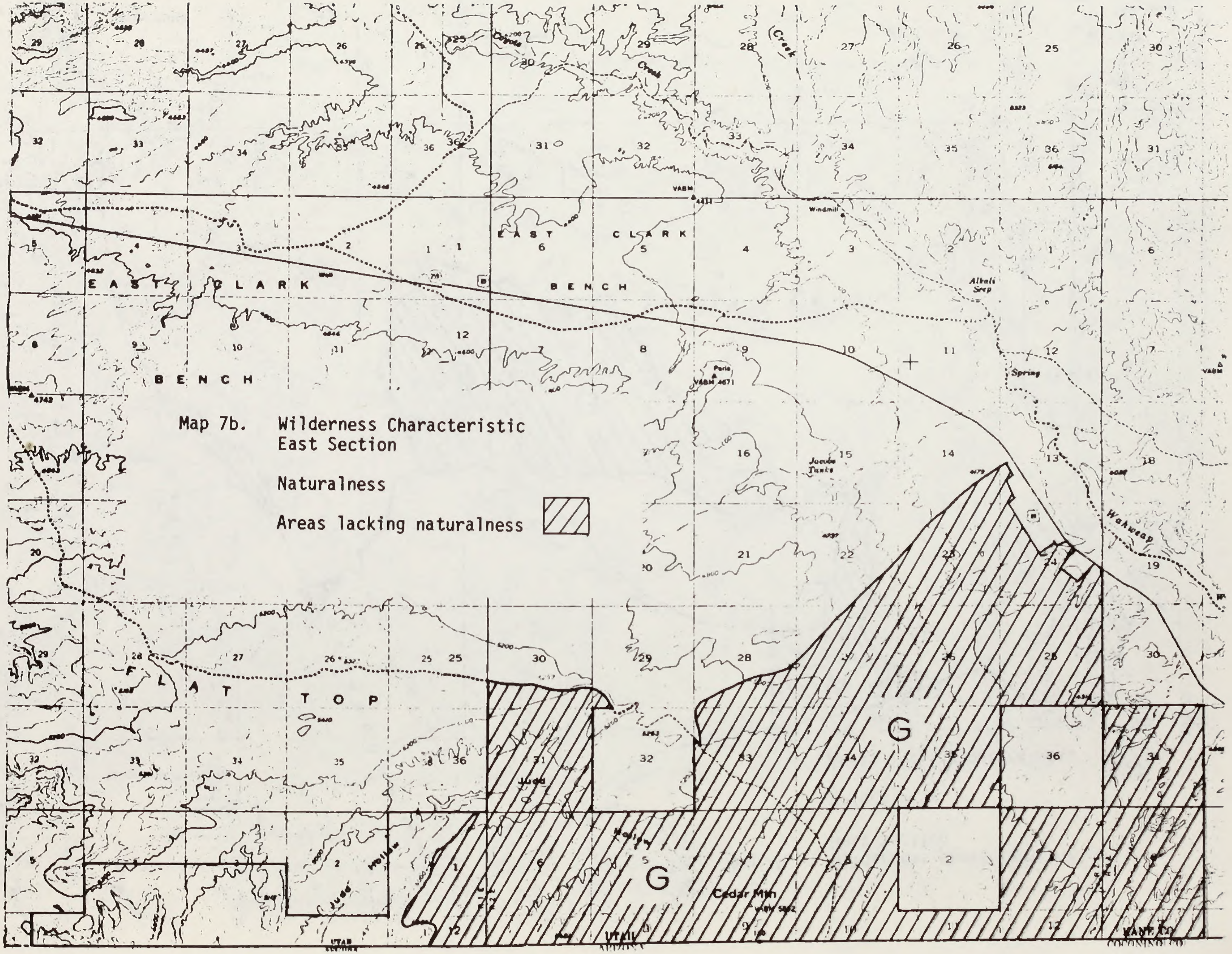
Fence ×—×—×—×

Corral ↄ

Dam ∢



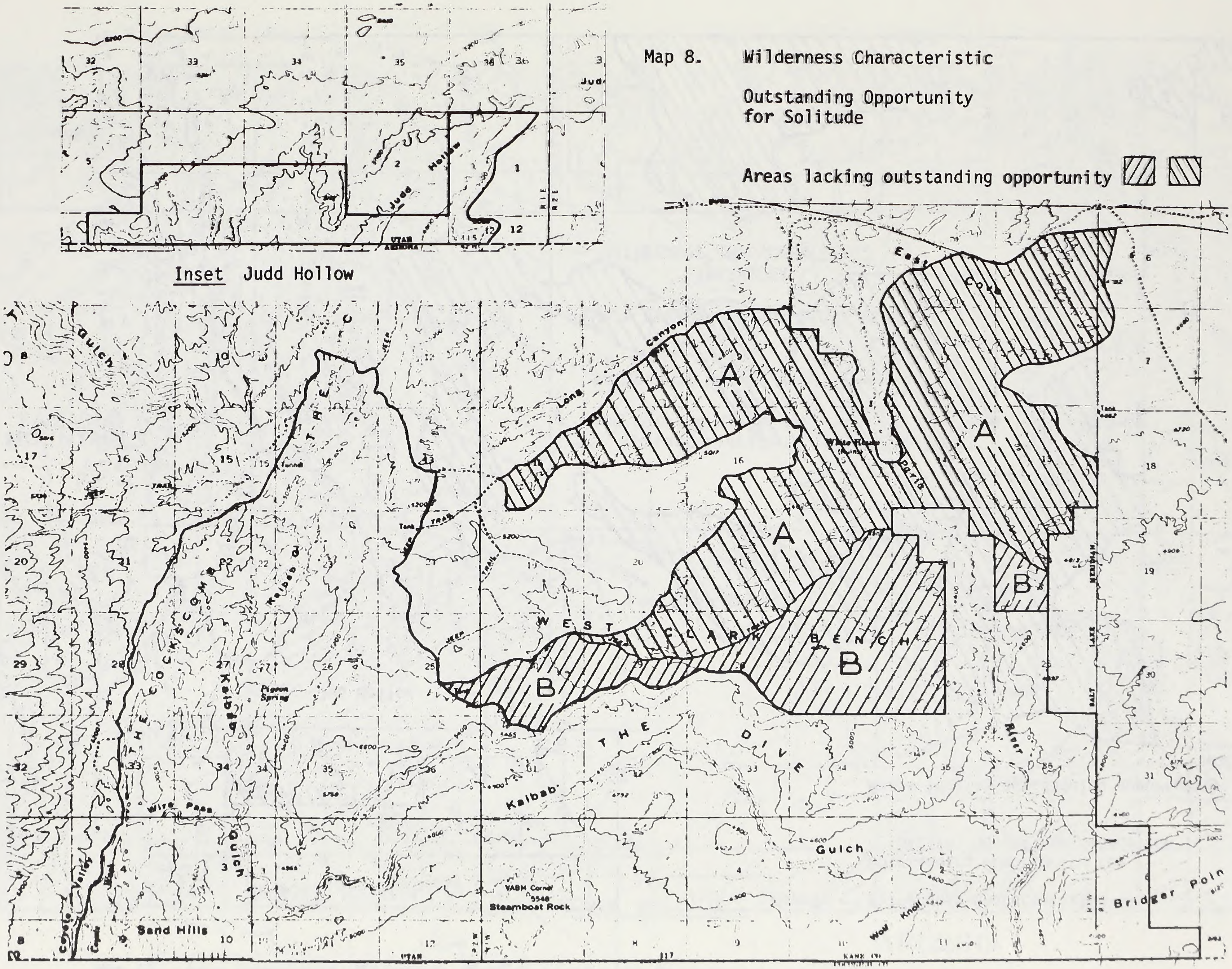
Map 7a. Wilderness Characteristic West Section



Map 7b. Wilderness Characteristic
East Section

Naturalness

▨ Areas lacking naturalness

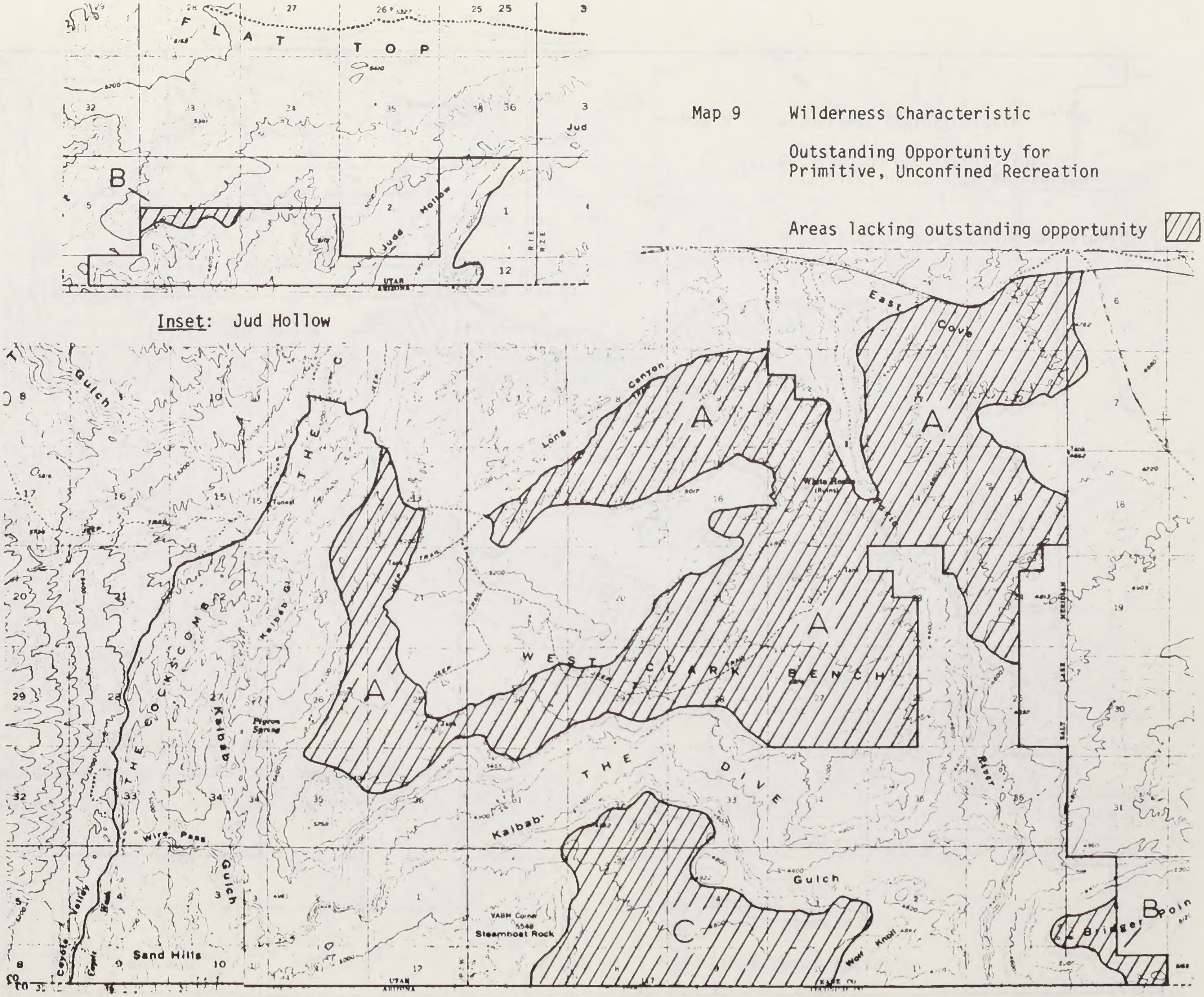


Map 8. Wilderness Characteristic

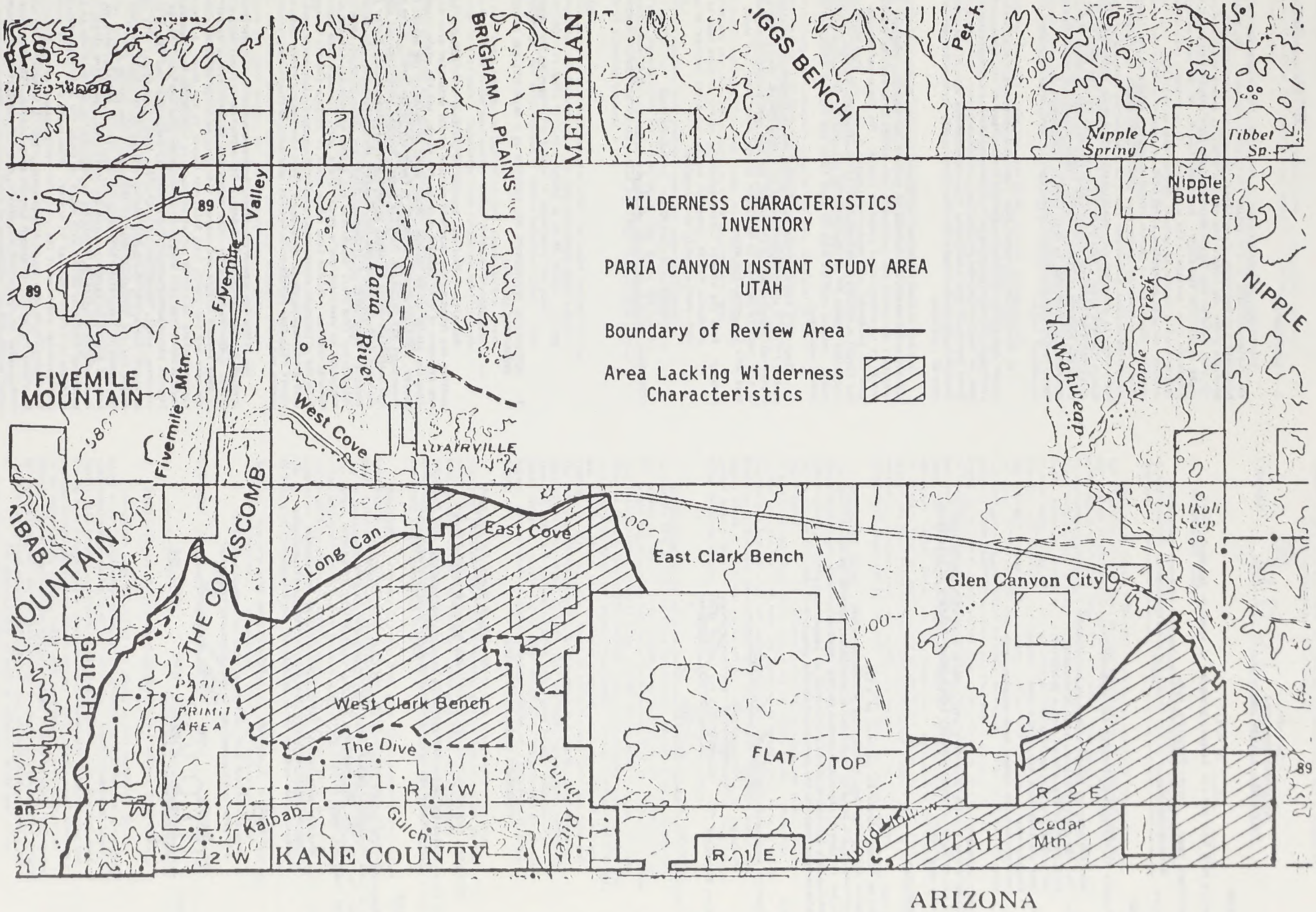
Outstanding Opportunity for Solitude

Map 9 Wilderness Characteristic

Outstanding Opportunity for
Primitive, Unconfined Recreation


Areas lacking outstanding opportunity ▨

Inset: Jud Hollow



Map 10. Area Possessing Wilderness Characteristics as Described in the Wilderness Act.

WILDERNESS INVENTORY
WILDERNESS SUMMARY SHEET

I. LOCATION

Inventory unit No. (area or island, grouping of areas or islands): ISA-1

Areas/Island name: Paiute Primitive Area

District: Arizona Strip State: Arizona

II. SUMMARY:

A. Results of wilderness characteristics analysis.

1. Does the area or island appear to be natural? X yes ___ no
2. Does the area or island offer outstanding opportunities for solitude or a primitive and unconfined type recreation? X yes ___ no
3. Does the area meet any of the size requirements? X yes ___ no
4. Does the area or island have supplemental values? X yes ___ no

B. Resulting map.
Attach a map showing inventory unit, roads, area with possibility of returning to a natural state, recommended boundary of wilderness study area (WSA).

III. RECOMMENTATION

Check one:
X Area or island should be approved as a WSA.
___ Area or island does not qualify for wilderness study.
___ A portion of the area(s) or island(s) should be approved as a WSA for further study and reported to the President. The restrictions imposed by Section 603 will no longer apply (reference to map) on the remainder of the area.

IV. APPROVAL

A. District Manager: Billy R. Templeton
Date: 5/24/79
B. State Director:
Date: 6/5/79

WILDERNESS INTENSIVE INVENTORY

UNIT NO. ISA-1

NAME Paiute Primitive Area

Explain by a concise narrative the following essential wilderness characteristics (for guidance see text in the Wilderness Inventory Handbook):

1. SIZE

Narrative: The Paiute Primitive Area contains 35,092 acres of Bureau of Land Management administered land as outlined in Federal Register, Vol. 40, No. 187- September 25, 1975. No Arizona state or patented lands are found in this unit.

Summary: 1. Does the area have at least 5,000 acres of contiguous land and is it of sufficient size to make practicable its preservation and use in an unimpaired condition:

[✓ YES] NO (circle one)

2. Does the island have sufficient size to make practicable its preservation and use in an unimpaired condition?

YES NO (circle one)

SIGNATURE: John R. Kalish DATE: 5-11-79
(Who did analysis and when)

UNIT NO. ISA-1

2. NATURALNESS

Narrative: The naturalness of the Paiute has been preserved due to the inaccessibility of its rugged topographic features. The Virgin Mountains run southwest to northeast through the primitive area. The mountain peaks and ridges are exposed granite, gneiss and limestone. On the west side of the Virgin Mountains are five deep canyons that form right angles with the ridge. Sullivans Canyon, on the east side of the primitive area, parallels the mountains. It is evident that these features are a result of natural forces such as uplifting, faulting, and erosion. Natural succession along with topography exhibit the area's primeval character. A Mojave Desert community exists on the lower slopes and canyons and progresses into pinyon-juniper at higher elevations and at the highest elevations there is a ponderosa pine and fir community. Man's work is substantially unnoticeable throughout the primitive area except for one area. (See photos # .) The east slope of Mt. Bangs contains numerous mining access routes, some of which were bladed after the passage of FLPMA in 1976. These routes are noticeable and do dominate the landscape in that locale. (See photos # .) These routes would require a great deal of hand labor to return the area to natural state.

It should also be noted that there are other old mining access routes and trails within the primitive area that do not dominate the landscape. These old routes have been identified and are presently being used as backpacking and hiking trails (photos # ). As stated in House Report 95-540, trails are allowable impacts within a wilderness. Therefore, it is not necessary for these trails to be returned to a natural condition.

Another allowable impact, as stated in House Report 95-540, is a bighorn sheep enclosure located in Frehner and Hedricks canyons. This temporary enclosure and catchments were constructed without the use of trucks or construction of roads or trails. The fence had minimal impact upon the landscape and vegetation (photos # ). From views atop the Virgin Mountains, the enclosure is unnoticeable without the aid of binoculars (photo # ). The fence is proposed to be removed within 15 years. Removal will be done by hand labor and without trucks or heavy ground equipment.

There is a stone corral and loading pen in Hancock Canyon (see photos # ) about three-fourths of a mile inside the primitive area. A road was constructed to the corral but has been partially washed out so that vehicle passage is no longer possible for more than about a half mile into the primitive area.

Summary: Does the area or island generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. Aokel DATE: 5-11-79

UNIT NO. ISA-1

3. OUTSTANDING OPPORTUNITY FOR SOLITUDE OR A PRIMITIVE AND UNCONFINED RECREATION ANALYSIS

A. SOLITUDE

Narrative: External impacts on solitude both visually and audibly are found in the northern portion of the primitive area due to the presence of I-15 onehalf mile to the north, and the night lights from the cities of St. George, Utah, about 20 miles to the north, Mesquite, Nevada, and Littlefield, Arizona, a few miles to the west. There may be occasional air pollution from Las Vegas, Nevada, commercial air traffic, and seasonal changes in color in agricultural areas in the Beaver Dam Wash and Mesquite areas and the contrast they create with the natural setting. Some users of wilderness find that these types of impacts do not detract from their experience but rather enhance the feeling of seclusion by observing man's works from a great distance from within a natural setting. Others find these types of impacts totally detract from the wilderness experience and therefore should not be present in or near a wilderness area. Because of these contrasting viewpoints, this report will deal solely with factors affecting solitude that are present within the unit.

The primitive area encompasses the backbone of the Virgin Mountains running roughly NE to SW (see map). The relief in the unit ranges from 300 to 2,400 feet per mile. The main ridge is dissected on either side by many smaller ridges and canyons that drop to large alluvial slopes on the west and the 13mile long Sullivans Canyon to the east. A flatter portion exists in the SE corner of the unit near Black Rock Mountain. Vegetation in the area ranges from ponderosa pine and white fir in the highest elevations through pinyon-juniper, manzanita, and oak to blackbrush, creosote, cacti, yucca, and willow in the lower elevations. The combination of slope, elevation, drainage, and vegetative cover create extremely rugged terrain throughout most of the unit. (See photos # .) The amount of vegetative screening in the flatter terrain makes up for a lack of better topographic screening there. The cumulative effect of these characteristics on providing an opportunity for solitude is that excellent screening exists with which to avoid the sights, sounds, and evidence of others that may be nearby. (See photo # .) The present configuration and size of the unit also contribute to the opportunity for seclusion in that it is little longer than it is wide. (See map.) As stated in the RMP developed for the area in 1976, "The primitive area....(is) an area where the visitor can get completely away from other people and the evidences of civilization." When visitor use increases, some factors that could deter from a solitary experience are high use along the Virgin Ridge, in Sullivans Canyon, and perhaps Hancock Canyon, the tendency for hikers to follow ridges and canyon bottoms, higher concentrations of users at all points around the unit where vehicular access to the boundary is possible, and the existence of the bighorn sheep enclosure with its water collection and storage system. (See photo # .) However, little effort would be required to avoid the sight, sound or evidence of any one of the above-mentioned factors. The enclosure is a temporary structure to be removed and rehabilitated once the sheep are well established. At the time the Recreation Management Plan for the primitive area was drafted, there were estimated to be 300 visitor days of use, approximately half of which were hunting. Thus, a seasonal affect on solitude is large numbers of deer hunters during the hunting season.

All factors considered, the primitive area, as it exists, contains outstanding opportunities for experiencing isolation, remoteness from others, and seclusion.

Summary: Does the area have outstanding opportunities for solitude?

[✓ YES] NO (circle one)

SIGNATURE: Thomas F. Folks DATE: 5-11-79

UNIT NO. ISA-1

B. PRIMITIVE AND UNCONFINED RECREATION

Hiking and Backpacking

The Paiute Primitive Area is a combination of beauty, natural diversity, and a wild, rugged character that unite to provide the qualities necessary for outstanding primitive hiking and backpacking. The backcountry traveler encounters a tremendous variety of plant and animal communities, exposed geologic formations evidencing 1,175 million years of geologic history, and panoramic views of the surrounding country. (See photo # .)

Six canyons, one main ridge top, and broad alluvial slopes provide hiking areas of differing difficulty in this fifty-five square mile unit. (See photo # .) Stream beds and wild game trails allow hiking access. Alhough there are several proposed, no trails have been developed in this unit. However, there are some abandoned mining roads that now serve as hiking trails. At least eight annual springs and many seeps provide water for travelers in the upper reaches of some of the canyons and draws.

Due to the great variety of terrain and environments, there is an outstanding opportunity for a hiker to test his outdoor skills during short day hikes or through long treks.

Hunting

This unit provides an excellent opportunity to hunt mule deer. The present population is large, viable, and can easily withstand controlled hunting pressure. Hunting success is approximately 25 percent.

A bighorn sheep reintroduction program has been initiated by the Arizona State Department of Fish and Wildlife and the Arizona Strip District, Bureau of Land Management, for the Virgin Mountains. Hunting for this species in this unit will begin upon establishment of a viable population. No time table is set for the completion of this program.

Gambel quail, mountain lion, and coyote are also found throughout this unit. Hunting pressure and success on these species have been minimal.

Rockclimbing

The Paiute Primitive Area provides excellent opportunities for wilderness rockclimbing. Granite, gneiss, and limestone areas give the rockclimber many opportunities for a variety of face, rock, and boulder climbs. Present use of this unit by rockclimbers is minimal. Difficult access to climbing areas and little public knowledge of this unit account for the lack of climbing interest.

Winter Sports

This unit provides excellent opportunities for cross country skiing, ski mountaineering, and snowshoeing. The high elevation snow season lasts from November to April with snow depths up to 96 inches. Skiing and snowshoeing open this area for people to experience the beauty, solitude, challenge, and exhilaration of winter mountain travel. (See photo # .)

Use of this area, though, is limited by poor winter access routes. Tom and Cull Wash Road is the best winter access route to the high elevation areas in this unit. Impassable road conditions usually begin about three miles south of the unit boundary.

Photography

The Paiute Primitive Area provides excellent opportunities for photography. This unit is characterized by great contrasts in environments and land forms. The component plant communities are the Mojave desert, pinyon-juniper, and ponderosa pine-white fir. Land forms include deep canyons, alluvial slopes, cliffs, and rugged mountain peaks. This variety of environments and rugged topography, along with changing light and weather, and sweeping panoramas all combine to give the qualities needed for varied and interesting photographs.

Bird Watching

A large variety of birds inhabit this unit due to the different elevation related plant communities. These communities include the creosote, yucca, barrel cacti community in the lower canyon and alluvial slope areas, the pinyon-juniper, cliffrose, blackbrush community on the mountain slopes and upper canyon, and the open park-like ponderosa pine forests on the top. Riparian zones also exist in the spring and seep areas. Birds found in this unit include bald and golden eagles, hawks, owls, thrushes, warblers, tanagers, and wrens. Open vegetation throughout allows for easy bird sightings.

Sightseeing for Geologic Features

The Paiute Primitive Area provides an opportunity to view evidence of 1,200 million years of mountain building and subsequent erosion. Igneous, metamorphic, and sedimentary rocks are found throughout the unit. Evidence of mountain building includes igneous intrusions, faulted anticlinal folds, and reverse faulting. Erosional features found are broad alluvial fans, deep gullies and canyons, wind-sculptured formations, and rugged areas of frost heaving. (See photos # ). Sightseeing provides an excellent opportunity to study a transition between two major geologic provinces, the Colorado Plateau and Basin and Range, which meet in the primitive area.

Sightseeing for Zoological Features

The variety of habitats in this unit provides an opportunity to observe and study animal communities. The Mojave desert region is home for a number of desert adapted species including the desert tortoise, gila monster, great basin and mojave green rattlesnakes, chuckwalla, and other lizards, and desert rodents. Rodents, jackrabbits, bobcats, mountain lions, coyotes, and wintering mule deer inhabit the pinyon-juniper forests. The high country ponderosa pine forests sustain summer populations of deer, coyote, mountain lions and bobcats.

Upon completion of a transplant program, bighorn sheep will once again inhabit the canyons and slopes of this unit. The reintroduction program has been initiated by the Arizona State Department of Fish and Wildlife and the Arizona Strip District, BLM, for the Virgin Mountain area. Bighorn sheep will be released in an enclosure during October, 1979. (See photo # .) Permanent release will take place when these animals are established in their new range.

Summary: Does the area have outstanding opportunities for a primitive and unconfined type of recreation?

[✓ YES] NO (circle one)

SIGNATURE: John D. Kalish DATE: 5-15-79

UNIT NO. ISA-1

4. SUPPLEMENTAL VALUES

Narrative: The Paiute Primitive Area contains a varying quantity of supplemental values that serve to enhance its wilderness quality. They are:

Ecological Values - The unit provides an excellent opportunity for the scientist, the student, or the recreationist to study and observe the ecology of three different life zones all within a distance of 3 miles and an elevation range of 5,600 feet. (See photo # .) An environment typical of the Mojave Desert representing the Plains or Upper Sonoran Zone is found in the lower reaches of Sullivans Canyon. Cacti, creosote, desert willow, ephedra, yucca, and mesquite are typical in this zone, along with some cottonwood, western redbud, and sumac. Lizards, gila monsters, rattlesnakes, desert tortoise, and coyote are representative of wildlife. Pinyon, juniper and live oak are present in the upper reaches of the zone where cooler temperatures, slope aspect, and more moisture contribute to their abundance. Birds, rabbits, rodents, mountain lions, bobcats, coyote, and deer are found in this area. Higher up the canyons and on the main ridge, elements of the Foothills or Transition Zone are found. Ponderosa pine in park-like stands, manzanita and gambel oak in old burn areas, and some pinyon and juniper from the lower zone are found in this zone. Many of the same animals found in the pinyon-juniper below are also found here. Representing the Montane or Canadian Zone are small stands of white fir (Abies concolor) just west of the main ridge on the cooler north-facing slopes. This is of particular interest since the stands are located below their normal elevational range and are at least 42 miles from the nearest seed source.

Geological Values - A wide variety of geologic features are present that provide educational and scenic values. The unit is part of the transitional zone between two major geologic provinces, the Colorado Plateau and the Basin and Range. It is here that the colorful sedimentary layers of the Colorado Plateau end abruptly in a large anticlinal fold. (See photo # .) Characteristic of the Basin and Range, the fold is broken by many high angle faults and is highly eroded. Contained within the unit are both very old igneous and metamorphic rocks from the Precambrian Era and very new sedimentary rocks from the Cenozoic Era. Evidence of Tertiary basalt flows are also present. Because these rock layers erode at different rates and to different shapes, the forces of nature have produced a highly scenic and rugged landscape of long canyons, steep mountain slopes, sheer cliffs, and mountain peaks. (See photo # .)

Anthropological Values - According to an archeological survey conducted in June of 1974 by Brigham Young University, traces of human activities are present in the Sullivans Canyon area from 10,000 BC to recent times. The survey found various specimens from several different cultures. These specimens included a Clovis point (10,000 BC), a point similar to those found at Gypsum Cave (8500-6500 BC), Pinto-type points, roasting pits and tool making sites of the Anasazi-Basketmaker through Pueblo (200-1200 AD), and evidence of the Paiute culture starting somewhere between 700 and 1100 AD. In all, the survey found 34 sites between Chauncies Mine and the Virgin River Campground. No permanent structures, pictographs or petroglyphs were found. However, rock shelters, caves, open campsites, roasting pits and limited activity sites were found. Although these sites probably provide little other scientific, educational, or scenic values, they do provide anthropological values of a potentially significant nature.

Rare and Endangered Species There is a possibility that three plants on the threatened and endangered species list are found in the unit. They are Agave utahensis var. kaibabensis and Haplopappus scopulorum, both of which are on the proposed threatened list, and Eriogonum heermanii var. subracemosum, which is on the proposed endangered list. There are desert tortoise and gila monsters found in the unit and both are state listed sensitive species.

Heritage - There are several items of a recent historic nature that have little significance as supplemental values of heritage. Chauncies Mine, a copper prospect in Sullivans Canyon, and an iron prospect along the SE boundary are the only mining features of an historic nature in the unit. Neither prospect appears to have been extensively worked. A steam boiler at the spring in Hancock Canyon is all that exists at what was to have been a cedar shingle mill. The mill was never built. The only other report of an historical nature is that of use of timber from the Mt. Bangs area for the construction of some of the older buildings in Mesquite, Nevada.

Summary: Does the area contain ecological, geological, or other features of scientific, educational, scenic, or historical value?

[✓ YES] NO (circle one)

SIGNATURE: Thomas F. Folks DATE: 5-15-79

UNIT NO. ISA-1

5. POSSIBILITY OF CERTAIN AREAS RETURNING TO A NATURAL CONDITION

Narrative: The impacts of the mining access routes on the east slope of Mt. Bangs could possibly be returned to a natural state within time requirements under certain conditions. Rehabilitation of these trails will require extensive use of manual labor. The impacted area can be made substantially unnoticeable by extensive transplanting and seeding native plants over these routes. These trails would also need to be broken up in places, using only hand labor. Some of this has already been accomplished by natural forces such as erosion, rockslides, and succession, but the rehabilitation of this area within time requirements would depend principally upon the use of hand labor. (See photo # .) The practicality of such an approach would need to be determined prior to recommendation of such action.

Summary: If the area or island were to become a wilderness area, would the imprint of man's work be reduced by either natural processes or by hand labor to a level judged to be substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. Askal DATE: 5-16-79

## WILDERNESS INVENTORY
## WILDERNESS SUMMARY SHEET

I. LOCATION

Inventory unit No. (area or island, grouping of areas or islands): ISA-2

Areas/Island name: Paria Canyon Primitive Area

District: Arizona Strip State: Arizona

II. SUMMARY:

A. Results of wilderness characteristics analysis.

1. Does the area or island appear to be natural? X yes ___ no
2. Does the area or island offer outstanding opportunities for solitude or a primitive and unconfined type recreation? X yes ___ no
3. Does the area meet any of the size requirements? X yes ___ no
4. Does the area or island have supplemental values? X yes ___ no

B. Resulting map.
Attach a map showing inventory unit, roads, area with possibility of returning to a natural state, recommended boundary of wilderness study area (WSA).

III. RECOMMENTATION

Check one:
X Area or island should be approved as a WSA.
___ Area or island does not qualify for wilderness study.
___ A portion of the area(s) or island(s) should be approved as a WSA for further study and reported to the President. The restrictions imposed by Section 603 will no longer apply (reference to map) on the remainder of the area.

IV. APPROVAL

A. District Manager: Billy L. Templeton

Date: 5/24/79

B. State Director: Acting

Date: 6/5/79

## WILDERNESS INTENSIVE INVENTORY

UNIT NO. ISA-2

NAME OF AREA Paria Canyon P.A.

Explain by a concise narrative the following essential wilderness characteristics (for guidance see text in the Wilderness Inventory Handbook):

1. SIZE

Narrative: The Arizona portion of the Paria Canyon Primitive Area contains approximately 18,909 acres of public land. The Cedar City District of the Bureau of Land Management administers 8,606 acres of the primitive area in Utah. Together, the primitive area encompasses 27,515 acres of public land in both states as outlined in the Federal Register Doc. 69-541 filed January 15, 1969 designating the Paria Canyon Primitive Area. Public lands contiguous to the primitive area in Arizona will undergo an intensive inventory for wilderness potential at a later date.

The primitive area along the drainage is approximately 49 miles long and ranges from ½ to 3 miles wide between boundaries (see map). The majority of the boundary skirts the rim of the canyon but occasionally drops down into the canyon. The boundary is along legal subdivisions of several townships and sections. Boundary changes may be necessary in some areas to provide a more manageable unit.

Summary: 1. Does the area have at least 5,000 acres of contiguous land and is it of sufficient size to make practicable its preservation and use in an unimpaired condition?

[✓ YES] NO (circle one)

2. Does the island have sufficient size to make practicable its preservation and use in an unimpaired condition?

YES NO (circle one)

SIGNATURE: Thomas F. DATE: 4-30-79
(Who did analysis and when)

UNIT NO. ISA-2

2. NATURALNESS

Narrative: Paria Canyon is truly an area that has retained its naturalness. Its primeval character is exemplified by its sheer cliffs, jagged abutments, and varied geologic formations and features such as Wrather Arch. With such rugged topography, human activity has been excluded entirely from many areas within this unit. There are some range improvements such as a corral and water tank at the trail head of Paria Canyon (see photo # ) and a 500 KV powerline crosses the canyon about 2½ miles south of the trail head in Utah. There are a few ways on the east and west sides of the canyon that have been used for hunting, firewood collection, and sightseeing at scenic vistas along the rim.

There are some old mines and badly eroded access routes along 1½ miles of the Paria River from the boundary of Glen Canyon National Recreation Area up to the Sand Dunes in Sec. 34 of T41N R7E. These old access routes occur on benches above the Paria (photo # ). There are also some abandoned mine shafts and buildings in this area. These imprints are not noticeable from the river and only moderately noticeable from the top of the bench (photo # ). There is also an old corral in this southern portion of the canyon. Farther upstream near Judd Hollow are the remnants of an old water station used to pump water up to the plateau. These minor imprints are not substantially noticeable from within the canyon or along the rim (photo # ). They are widely dispersed and blend in well with the environment.

Summary: Does the area or island generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. Sokol DATE: 5-1-79

UNIT NO. ISA-2

3. OUTSTANDING OPPORTUNITY FOR SOLITUDE OR A PRIMITIVE AND UNCONFINED RECREATION ANALYSIS

A. SOLITUDE

Narrative: Visual perception of impacts outside the unit such as lights from the city of Page, Arizona, Lee's Ferry, Lake Powell, aircraft overhead, the Navajo Generating Station and its associated air pollution and transmission systems are evident from many points along the rims on both sides of the canyon. Since some users find that these impacts add to a solitary experience by observing them from a distance from within a natural setting and others feel they totally degrade the wilderness experience, this report will generally consider only factors within the unit that affect the opportunity for being secluded.

Due to the landform characteristics within the primitive area, varying degrees of solitude are found. Because of this, the solitude determination will be addressed in two segments, one covering the river bottoms and its environs, and one covering the remaining cliffs, benches, mesas, and uppermost rim.

The Paria River with its main tributary, Kaibab Gulch, carve sinuous canyons approximately 48 miles through layers of sandstones, mudstones, bentonite and conglomerates. As the river cuts through each consecutive layer, a narrow, deep canyon is formed in the case of the sandstone, or, a wider, open canyon is formed in the softer formations. Because of these geologic characteristics the opportunity for solitude at the river level may be limited on a seasonal basis if there are high numbers of users in the canyon. In areas such as the Narrows and the Dive where the canyon is constricted and the walls high, the only screening available exists from the many twists and turns the river makes around large sandstone buttresses and fins (see photo # ). In these narrow areas a corridor effect is created so that it would be difficult to get off the beaten path to avoid the sights, sounds, and evidence of others nearby (see photo # ). However, several turns or twists in the canyon between users provide enough screening to ensure a solitary experience.

In the other areas along the river the canyon walls gradually widen providing a more open feeling. The river becomes less sinuous but wider at the river level. Access out of the river bottom to side canyons and bench areas is easier and the ability to avoid the sights, sounds, and evidence of others in the unit is increased (see photo # ). Frequency of contact with other hikers detract from the opportunity for solitude in the river bottom during the high use season. Some letters have been received that discussed the number of people and their evidence (trash, waste, fire rings).

The majority of the primitive area consists of scores of deep side canyons, sheer cliffs, rolling benches, large amphitheaters, gentle slopes, and mesas. The nature of this rugged terrain lends itself to excellent screening (see photo # ). On the more gentle mesas, pinyon and juniper and associated species provide excellent screening (see photo # ). Since this area at present is less popular and more open than the river below, the opportunity for a solitary wilderness experience is outstanding. Another contributing factor to this opportunity is the fact that in this area, no specific part can be expected to be more desirable than another part. This helps insure low concentrations of users throughout most of the area. The only points in these upper areas where higher concentrations might be expected are at the various vehicular access routes that approach the rim. In fact, this area could be expected to handle much higher concentrations of users throughout without compromising the opportunity for solitude.

In evaluating the entire primitive area for opportunities for experiencing solitude, it is obvious that under normal conditions, the opportunity for that experience is outstanding throughout the unit over most of the year. However, during peak season use, the opportunity for solitude would be substantially reduced in the canyon bottom due to high frequencies and densities of users. There are permits required to hike in the canyon and consideration is being given to the limitation of numbers and size of groups allowed in the canyon. Such a program will help provide a continuing opportunity for engaging in outstanding solitary wilderness experiences in the unit for the entire year.

Summary: Does the area have outstanding opportunities for solitude?

[✓ YES] NO (circle one)

SIGNATURE: Thomas J. Fothe DATE: 5-8-79

UNIT NO. ISA-2

B. PRIMITIVE AND UNCONFINED RECREATION

Narrative: The Paria Canyon Primitive Area offers an outstanding opportunity for many forms of primitive and unconfined recreation. Examples of these types of recreation are as follows:

Hiking and Backpacking
This unit has long been a very popular area for hikers and backpackers. Both the Paria and Buckskin rivers have a total of 49 miles of canyon hiking with 25 of these miles in Arizona. This mileage total does not include the numerous accessible side canyons and benches.

The outstanding quality of this backpacking area is demonstrated by increasing visitor use:

| YEAR | VISITORS | VISITOR DAYS |
|---|---|---|
| 1978 (through Oct. 15) | 1,558 | 11,182 |
| 1977 | 1,051 | 9,053 |
| 1976 | 955 | 9,496 |
| 1975 | 821 | 6,261 |
| 1974 | 872 | 6,650 |
| 1973 | 447 | 3,474 |
| 1972 | 671 | 6,534 |
| 1971 | 506 | 4,977 |

These visitor use figures become even more significant when the short six month hiking season is considered. 1978 had a dramatic 67 percent increase in visitors and proportionate increases in visitation are projected for the near future. These backpackers are drawn to the solitude, beautiful scenery, and challenges found in this unit.

Hunting
This unit contains a resident population of mule deer. This population is viable enough to sustain controlled hunting pressure. The inaccessibility of this unit, though, presents problems in transporting animal kills to the trail head.

Canyoneering
The Paria Canyon Primitive Area presents many challenges to the rockclimber and canyoneer. Many of the upper benches contain deep and narrow side canyons that are accessible only by using ropes for climbing belays or rappels (see photo # ). Hiking these side canyons provides an opportunity to see many unusual sandstone formations, unspoiled archeological sites, scenic views of the surrounding canyon country, and to challenge the climber's skill in rockcraft.

River Running
This unit presents a great challenge to the serious river runner. Running the Paria may occur only during periods of adequate spring run-off from the Bryce Canyon and Buckskin Mountain areas. This season usually is February to May. Although there is a great potential for river running in this unit, the number of river trips to date is very small. Only one group rafted the Paria during the 1979 season.

Photography
The Paria Canyon Primitive Area presents many excellent opportunities for photography. The multicolored walls, variety of rock textures, unusual sandstone shapes, large amphitheaters, and constantly changing light are a few of the characteristics that provide interesting subject matter for photographers (see photo # ).

Sightseeing for Geological Features

This unit provides an opportunity to view the spectacular results of wind and water erosion on four different rock formations. These formations are the Chinle, Moenave, Kayenta, and Navajo (see photo # ). Other more recent rock formations are found in the Utah side of this unit. Erosional features include amphitheaters, alcoves, fins, narrow canyon goosenecks, river ox-bows, rugged gullies, talus slopes, and the scenic Wrather Arch (see photo # ). Other interesting features, found specifically in the Chinle, are petrified wood, red jasper, and small amounts of mercury, uranium, and gold.

Summary: Does the area have outstanding opportunities for a primitive and unconfined type of recreation?

[✓ YES] NO (circle one)

SIGNATURE: John R. Kalish DATE: 4-30-79

UNIT NO. ISA-2

4. SUPPLEMENTAL VALUES

Narrative: The Paria Canyon Primitive Area contains several supplemental values that enhance wilderness quality. These supplemental values are:

Scenic
The Paria Canyon Primitive Area is well noted for its beautiful, scenic canyon areas. The colorful 1,100-foot deep canyon contains many unique wind and water carved rock formations, desert varnish, natural amphitheaters, hanging gardens, wooded terraces, and large arches (see photo # and ). In places, the canyon is spectacularly narrow and deep (see photo # ). At the Arizona-Utah border the canyon is only a few feet wide and is walled by vertical ledges several hundred feet high. Above these ledges the canyon walls form a steep slope to the plateau surface about 1,000 feet above the river.

The four component rock formations contain a variety of colors, textures, and erosional patterns. The upper benches provide scenic panoramas of not only the Paria Canyon and its tributaries, but of the outlying canyon country, sandstone plateaus, adjoining rock formations, and towering cliffs (see photo # ). The following are two of the many visitor comments that speak for the beauty of this unit:

> "Very, very exquisite! Very invigorating stroll. The canyon is unbelievably beautiful." (6-14-78)

> "Fantastically beautiful. Have hiked all the wilderness trails on the south side of the Grand Canyon, but this is the best." (5-17-78)

Geologic
This unit is a fascinating outdoor classroom for both amateur and professional geologists. In Arizona, the Paria River has exposed four rock formations representing 35 million years of geologic activity. These formations, beginning with the youngest, are the Navajo, Kayenta, Moenave, and Chinle (see photo # ). Like pages in a book, each of these formations tell of different past environments. The environments under which these sediments were accumulated include marine, lake, stream, and desert. While the top three formations contain mostly sandstone and siltstone, the Chinle holds a variety of component parts. Remains of Triassic age amphibians, reptiles, phytosaurs, lung fish, and trees are scattered throughout this formation. Petrified logs are found up to 60 feet long and three to four feet in diameter. Red jasper, bentonitic mudstone, along with small amounts of gold, mercury, and low grade uranium are also found in the Chinle.

This unit also yields information about canyon development. The Paria River is still a very powerful erosional force with an average overall gradient of 28 feet/mile, an annual flood water depth of 5-20 feet, and a velocity of 5-20 feet/second. The canyon profile tells of changes in this erosional power due to shifts in climate and uplifting. Exposed areas of folded and contorted rock strata furthers the story of gradual uplifting and canyon development.

Historical
This unit contains historical evidence of past ranching and mining. Remnants of a pumping station are found where Judd Hollow enters the Paria River. This pumping station dates from 1920. Historical evidence of mining activity is found along the last seven miles of the Paria River. Efforts to mine gold and mercury began in 1913 but were never successful. Evidence of mining includes scattered trenches, trails, and mine spoils.

Anthropological
The Paria Canyon Primitive Area has nine identified archeological sites. These sites, found by the Museum of Northern Arizona in 1967, are thought to fall in the late Pueblo II and early Pueblo III periods. These time periods date to approximately 1100 A.D. Within these sites are petroglyph panels, pottery, water vessels, choppers, and a single room masonry pueblo. No archeological surveys have been made in the upper terrace and bench areas of this unit. However, several hikers have reported finding pottery and stone chips in several locations above the river.

Rare and Endangered Species
This unit contains three plant species that are listed in the Federal Register, Vol. 40, #127 as proposed threatened or endangered:

Fabaceae, Astragalus straitiflorus - Endangered
Hydrophyllaceae, Nama retrorsum - Threatened
Primulaceae, Primula specuicola - Threatened

Three additional plant species found in this unit are listed as Arizona State sensitive species:

Apocynaceae, Amsonia palmeri
Apiaceae, Cymopterus newberryi
Asteraceae, Encelia frutenscens var. resinosa

This unit is also the historic habitat of the endangered peregrine falcon. The Arizona Strip District is presently initiating a research contract with Mr. Dave Ellis, ornithologist, to conduct a peregrine falcon survey of the Vermillion Cliffs Natural Area and Paria Canyon Primitive Area. There is no present data on resident peregrine falcon populations in this unit.

Summary: Does the area contain ecological, geological, or other features of scientific, education, scenic, or historical value?

[✓ YES] NO (circle one)

SIGNATURE: John R. Kalish DATE: 5-8-79

UNIT NO. ISA-2

5. POSSIBILITY OF CERTAIN AREAS RETURNING TO A NATURAL CONDITION

Narrative: As stated previously, the areas of concern are those which have access routes or jeep trails in them. The old access routes on the lower benches in the southern end of the area were used for uranium mining and exploration but are now abandoned. Weathering processes have made these routes entirely inaccessible. Revegetation is also occurring on these routes (see photo # ). Given time, the forces of nature can return this area to a natural condition. There is a shack and some litter at an old mine shaft in this area. If necessary, this shack could easily be disassembled and carried out by hand labor along with the litter pile. The other shacks, corral, and pumping station remnants can also be removed by hand labor but none significantly detract from the naturalness of the primitive area.

Summary: If the area or island were to become a wilderness area, could the imprint of man's work be reduced by either natural processes or by hand labor to a level judged to be substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. Sokal DATE: 5-3-79

## WILDERNESS INVENTORY
## WILDERNESS SUMMARY SHEET

I. LOCATION

Inventory unit No. (area or island, grouping of areas or islands): ISA-3

Areas/Island name: Vermillion Cliffs Natural Area

District: Arizona Strip State: Arizona

II. SUMMARY:

A. Results of wilderness characteristics analysis.

1. Does the area or island appear to be natural? X yes ___ no
2. Does the area or island offer outstanding opportunities for solitude or a primitive and unconfined type recreation? X yes ___ no
3. Does the area meet any of the size requirements? X yes ___ no
4. Does the area or island have supplemental values? X yes ___ no

B. Resulting map.
Attach a map showing inventory unit, roads, area with possibility of returning to a natural state, recommended boundary of wilderness study area (WSA).

III. RECOMMENTATION

Check one:
X Area or island should be approved as a WSA.
___ Area or island does not qualify for wilderness study.
___ A portion of the area(s) or island(s) should be approved as a WSA for further study and reported to the President. The restrictions imposed by Section 603 will no longer apply (reference to map) on the remainder of the area.

IV. APPROVAL

A. District Manager: Billy R. Templeton
Date: 5/24/79
B. State Director: Acting
Date: 6/5/79

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## WILDERNESS INTENSIVE INVENTORY

UNIT NO. ISA-3
NAME OF AREA Vermillion Cliffs N.A.

Explain by a concise narrative the following essential wilderness characteristics (for guidance see text in the Wilderness Inventory Handbook):

1. SIZE

Narrative: The inventory unit is comprised of 50,135 acres of public land as stated in the Federal Register Doc. 69-541 filed January 15, 1969 which outlines the legal boundaries of the Vermillion Cliffs Natural Area. Within the unit but excluded from the total size determination are 3,160 acres of state lands and 800 acres of patented lands. The unit exceeds the size requirement outlined in the Wilderness Act and FLPMA.

The unit is approximately 30 miles long and varies from 1½ to 4 miles wide (see map). The south boundary follows Highway 89A the entire length from House Rock to Marble Canyon. The remaining boundaries are plotted along legal subdivisions of several townships and sections. The northern boundary falls just behind the rim of the cliffs except in two areas where it deviates and falls below.

Boundary changes may be necessary at a later time to facilitate management of the unit. Moving the northern boundary back away from the cliffs to the nearest maintained road would accomplish that purpose. Also, the boundary may need to be changed in the area of the Dominguez-Escalante Interpretive Site to exclude it from the inventory unit.

The Federal Register Doc. 69-541 appears to have two typographical errors in the legal description of the area. One error, T38N, R5E, Sec. 5, SE¼, NW½, should be SE¼ NW¼. The other error, T39N, R5E, Sec. 36, S½ NE¼ NE¼ NE¼ should be S½ NE¼, NE¼ NE¼. The corrected legal descriptions are in agreement with predesignation documents and the published total acreage figure in the Federal Register.

Summary: 1. Does the area have at least 5,000 acres of contiguous land and is it of sufficient size to make practicable its preservation and use in an unimpaired condition?

[✓ YES] NO (circle one)

2. Does the island have sufficient size to make practicable its preservation and use in an unimpaired condition?

YES NO (circle one)

SIGNATURE: Thomas J. Folks DATE: 3-20-79
(Who did analysis and when)

UNIT NO. ISA-3

2. NATURALNESS

This unit has clearly been affected by the forces of nature. The Vermillion Cliffs is a prime example of past geologic activity within the area. It has retained its primeval character without the imprint of man's work substantially noticeable. However, there are several minor impacts that do exist within the unit. These impacts are in the form of ways and facilities used in connection with ranching and mineral exploration. The range improvements such as fences, reservoirs, tanks, and pipelines occur primarily in the western part of the unit. (See photos # .) There are approximately 19 total miles of water pipelines in the natural area. They come from 9 developed springs along the base of the cliffs. These pipelines provide water to cattle tanks and reservoirs, and to the Cliff Dwellers Lodge along Route 89A. Since these pipelines are generally less than 2 inches in diameter and are often at least partially buried, they do not dominate the landscape and are not substantially noticeable. (See photos # ). There also are some roads and ways that have been used for ranching and mining activities. There is approximately 1½ miles of road from Route 89A to an old mill site in Sections 6, 7, and 8 of T38N, R6E (photo # ). Another road extends into the area from Cliff Dwellers Lodge in Sections 28, 29, 32, 33 of T39N, R6E. (See photos # ).

The road to Jacob's Pool is used mainly for access to range facilities. (See photo # .) There are at least three separate areas which were explored for uranium during the 1950s. They are located between Emmett Hill and the northeast boundary with the Paria Canyon Primitive Area. The minor impacts in these areas are old access routes apparently used in the 1950s. The routes occur mainly in the bench and hilly areas of Chinle and Moenkopi formations lying between the cliffs and the relatively flat plains. The majority of these routes are in various stages of natural revegetation, with many being ruined and impassable due to erosion (see photos # ).

Together, the imprints of grazing and mineral exploration do not degrade the overall naturalness of the unit.

The size and magnitude of the Vermillion Cliffs clearly overshadow any impression caused by these impacts singularly or cumulatively (see photo # ). From the view seen while driving along the cliffs on Route 89A, these imprints are generally unnoticeable to the visitor. The visitor remarks written in the register at the Dominguez-Escalante interpretive site reflect these viewpoints. The comments by visitors only compliment the grandeur of the Vermillion Cliffs. The visitors haven't stated that anything distracts from their experience along the cliffs (photo # ).

Summary: Does the area or island generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. Sokol DATE: 4-5-79

UNIT NO. ISA-3

3. OUTSTANDING OPPORTUNITY FOR SOLITUDE OR A PRIMITIVE AND UNCONFINED RECREATION ANALYSIS

A. SOLITUDE

Narrative: The unit is in the configuration of a very open "V". being about 30 miles long and varying from 1½ to 4 miles wide. Additionally, across the width of the unit the terrain ranges from fairly level plains through small mesas, benches and hills, up to and over an abrupt and massive escarpment up to 1,500 feet high. Due to the configuration of the unit in relation to its size and the general nature and aspect of the terrain, the solitude determination will be addressed in four landscape segments with a final determination based on the sum of the four.

The first segment deals with the relatively level plains adjacent to highway 89A. Most of these flatter areas are located in the western portion of the unit, the largest being about 10 miles long and about 2 miles wide with less than 300 feet elevation change across the width. (See photo # .) The amount of vegetation in these areas ranges from little or none in some of the eastern flats to low growing shrubs, cacti and grasses in the western flats. Screening, both visually and audibly, is lacking due to the size and configuration relationship, the lack of larger vegetation, and the lack of relief. Under these conditions, solitude could be elusive not only visually but audibly as well. As a result, a degree of solitude may be present in the plains area, but it should not be considered as having outstanding opportunities for solitude.

The second landscape segment deals with the area between the cliffs and the plains. This area varies in width from 1 to 3 miles along the entire length of the cliffs. It overlooks the lower plains and highway 89A and is characterized by scattered, broken rock, sand dunes, talus slopes, deeply eroded gulches, and small mesas. (See photo # .) The vegetation consists of mostly low shrub, cacti, and grasses with an occasional juniper. More juniper is found in the hilly area in the western portion. Some areas of riparian vegetation are found around seeps and springs. The vegetation, because of its sparseness, does not allow for outstanding vegetative screening. However, the abrupt changes in the terrain offer topographic screening, both audibly and visually. (See photo # .) One limiting factor on solitude in this rough terrain is the narrow width between the cliffs and the plains. The solitude in this area can range from good to excellent depending on the amount of screening provided by the relief.

The third landscape segment deals with the steep, nearly vertical cliffs. (See photo # .) There are some small side canyons where the cliff line is broken and access is possible into the cliff itself. Opportunities for solitude in these areas or on the cliff face, as in the case of rock climbers, is good to excellent due to the screening effect of the cliffs.

The fourth landscape segment deals with the plateau above the rim of the cliffs and farthest from the highway. It provides an excellent opportunity for solitude due to the vegetative screening found there. (See photo # .)

Considering the four segments of the unit together, the opportunity for finding and experiencing solitude must be considered above average throughout much of the unit, with some areas in the plains being fair. The combination of change in terrain between the benches and plains, the many small clefts and side canyons in the cliffs, and the vegetation atop the cliffs all contribute to provide a user with adequate screening, and an excellent opportunity for solitude in many other parts of the unit. One other factor considered here is that there is no area or part of the unit that could be expected to attract a higher concentration of use than any other part, unless more intensive mineral exploration takes place. Because of this, use could be expected to be widespread throughout the unit, which would in turn provide a better opportunity for avoiding the sights, sounds, and evidence of other users in the unit.

Other factors that may influence solitude in the unit are the visual and audible impacts of vehicles on Highway 89A, the existence of Cliff Dwellers, Vermillion Cliffs, and Marble Canyon lodges and their associated developments, the night lights from the city of Page, Arizona, and the National Park Service facilities at Lee's Ferry. Although these impacts are outside the boundary of the unit, some users would find they add to a solitary experience by observing them from a distance from within a natural setting, while others feel they would totally degrade the wilderness experience. This report generally considers only factors within the unit that affect the opportunity for being alone or remote from others.

Summary: Does the area have outstanding opportunities for solitude?

(With some exceptions) [✓ YES] NO (circle one)

SIGNATURE: Thomas F. DATE: 4-24-79

UNIT NO. ISA-3

B. PRIMITIVE AND UNCONFINED RECREATION

Narrative: This unit provides outstanding opportunities for a diversity of primitive and unconfined recreational activities. Examples of these types of recreation are as follows:

Hiking and Backpacking
The combination of the established Honeymoon Trail, present mining trails, benches, washes, and the level 47 miles of cliff top provide access for hikers to enjoy the excellent scenic panoramas along with areas of solitude and geologic features. (See photo # .) Eleven annual springs scattered throughout the unit provide a limited water supply for hikers to purify and use. Further trail construction could give easier access to the more rugged regions of the unit.

Rockclimbing
The Vermillion Cliffs provides an opportunity for sandstone rock-climbing. Interest in climbing the Vermillion Cliff face and pinnacles is growing. Several groups have climbed in the Lowery Spring area near Lee's Ferry along with other face locations to the west. (See photo # .)

Photography
This unit has many excellent opportunities for photography. The variety of colors and textures found in the six component geologic formations, the barren and rugged appearance, the biologic struggle for survival, the broad, sweeping panoramas, and the constantly changing light and weather give this area the characteristics needed for interesting and varied photographs.

Sightseeing for Geologic Features
The Vermillion Cliffs Natural Area provides an excellent opportunity to view 45 million years of geologic activity. The visible geologic formations are the Moenkopi, Shinarump conglomerate, Chinle, Moenave, Kayenta, and Navajo Sandstone. (See photo # .) Petrified wood, mineralized with carnotite and other low grade uranium minerals, is found in the Chinle formation and Shinarump conglomerate.

Bird Watching
The Vermillion Cliffs Natural Area is an excellent raptor habitat. Raptors present include bald and golden eagles, prairie falcons, red-tailed hawks, and possible endangered peregrine falcons. Many other bird species use the cliffs, springs, open plains, and pinyon-juniper forests for resident or transient quarters.

Summary: Does the area have outstanding opportunities for a primitive and unconfined type of recreation?

[✓ YES] NO (circle one)

SIGNATURE: John R. Kalish DATE: 3-20-79

UNIT NO. ISA-3

4. SUPPLEMENTAL VALUES

Narrative: The Vermillion Cliffs Natural Area contains several supplemental values that enhance wilderness quality. These supplemental values are as follows:

Geologic Features
This unit is an excellent study area for both amateur and professional geologists. This cross section of the earth has been used in many geology textbooks and technical reports as an example of the layer-cake structure of sedimentary rocks of the Mesozoic Era. Seven rock formations, representing 45 million years of geologic history, are exposed and easily accessible. Like pages in a book, each layer reads of extreme changes in climate and physical land characteristics. (See photo # .) Large petrified logs in the Shinarump conglomerate and Chinle formation tell of extensive marshy forests, while thick layers of Navajo Sandstone tell of dry, rolling sand dunes. Recent large rockfalls, steep alluvial slopes, and stark, rugged landscapes clearly demonstrate the powerful forces of weather and upheaval. (See photo # .)

Anthropological
The Vermillion Cliffs Natural Area has seven Indian sites and the possibility of many others. In 1968, the Museum of Northern Arizona completed the "Archeological Inventory of Indian Ruins Located in Coconino County" for the Bureau of Land Management. This survey found five sites in the Sand Hill Crack (T39N, R4E, Sec. 25) and three sites in T39N, R4E, Sec. 21. The survey also documents a significantly large number of projectile points along the rim. These sites and points appear to date between 1000 and 1200 A.D. and are of the prehistoric Ceramic Age of Pueblo.

Historical
This unit contains parts of two historic trails. Approximately twenty-five miles of the Dominguez-Escalante Trail is located between Highway 89A and the rim. This path was used in October, 1776 by the Dominguez-Escalante expedition during their exploratory travels of the Great Basin. The Honeymoon Trail parallels the route of Dominguez-Escalante. This trail was used in the late 1800s as an important access route around the Grand Canyon to St. George. The Dominguez-Escalante Trail is under study by the National Park Service for possible inclusion in the National Trails System.

Rare and Endangered Species
This unit contains seven plant species that are listed in the Federal Register, Vol. 40, #127 as proposed threatened or endangered. These species are:

Leguminosae, Astragalus striatiflorus (endangered)
Cactaceae, Pediocactus bradei (endangered)
Polygonaceae, Eriogonum zionis var. coccineum (endangered)
Cactaceae, Sclerocactus spinosior (threatened)
Primulaceae, Primula specuicola (threatened)
Fabaceae, Astragalus desperatus var. conspectus (threatened)
Hydrophyllaceae, Phacelia rafaelensis (threatened)

Three additional plant species found in this unit are listed as Arizona State sensitive species. These species are:

Apiaceae, Cymopterus newberryi
Apocynaceae, Amosonia palmeri
Asteraceae, Encelia frutescens var. resinosa

This unit is also the historic habitat of the endangered peregrine falcon. The Arizona Strip District is presently initiating a research contract with Mr. Dave Ellis, ornithologist, to conduct a peregrine falcon survey in the Vermillion Cliffs Natural Area and Paria Canyon Primitive Area. There is no present data on resident peregrine falcon populations in this unit.

Summary: Does the area contain ecological, geological, or other features of scientific, educational, scenic, or historical value?

[✓ YES] NO (circle one)

SIGNATURE: John R. Kalish DATE: 4-24-79

UNIT NO. ISA-3

5. POSSIBILITY OF CERTAIN AREAS RETURNING TO A NATURAL CONDITION

Narrative: The three areas where mineral exploration routes made their greatest impact are in the process of natural rehabilitation. Many of the routes are in the steep foothills at the base of the cliffs. In this steep topography, many of these trails have been eroded and had rockslides on them. Vegetation is also coming back on the trails. Therefore, with time and the continuance of these natural forces, these areas will return to a generally natural condition.

The pipelines have not disturbed the visual features except with occurrence of discarded pipeline. This pipeline refuse can easily be removed from the unit by manual labor. Some pipeline is buried and others are lying on the surface (photo # ). The buried pipelines are experiencing revegetation and with time will return to a natural state.

Summary: If the area or island were to become a wilderness area, could the imprint of man's work be reduced by either natural processes or by hand labor to a level judged to be substantially unnoticeable?

[✓ YES] NO (circle one)

SIGNATURE: Daniel R. DATE: 4-20-79

# GLOSSARY AND REFERENCES

# GLOSSARY

## ABBREVIATIONS

The following abbreviations are used in this statement. Those representing terms will be defined under respective entries in the glossary.

| | |
|---|---|
| **AG&FD** | Arizona Game and Fish Department |
| **AU** | animal unit |
| **AUM** | animal unit month |
| **BLM** | Bureau of Land Management |
| **EIS** | environmental impact statement |
| **FLPMA** | Federal Land Policy and Management Act of 1976 |
| **MFP** | management framework plan |
| **NPS** | National Park Service |
| **ORV** | off-road vehicle |
| **RARE** | Roadless Area Review and Evaluation |
| **TDS** | Total Dissolved Solids |
| **URA** | unit resource analysis |
| **VRM** | visual resource management |

## TERMS

ACTIVE GRAZING PRIVILEGES. The total annual AUMs that a livestock operation or allotment is licensed to use. Also referred to as Qualifications. See Active Use.

ACTIVE NONUSE (GRAZING). The active grazing privileges not used or paid for by an operation during a year. Active nonuse and active use equal active grazing privileges or qualifications.

ACTIVE USE (GRAZING). The number of AUMs that a livestock operation actually uses and pays for during a year. See Active Nonuse.

AIR QUALITY CLASSES. Classes established by the Environmental Protection Agency that define the amount of air pollution considered significant within an area. Class I applies to areas where almost any change in air quality would be considered significant; Class II applies to areas where the deterioration normally accompanying moderate well-controlled growth would be considered insignificant; and Class III applies to areas where deterioration up to the national standards would be considered insignificant.

ALLUVIAL. Relating to or formed by water carrying and depositing rocks, soil, and other materials.

ALLUVIAL FAN. A sloping fan-shaped mass of sediment deposited by a stream where it emerges from an upland onto a plain.

ANIMAL UNIT (AU). Considered to be one mature (1,000 pound) cow or the equivalent based upon average daily forage consumption of 26 pounds dry matter per day (Range Term Glossary Committee, 1974).

ANIMAL UNIT MONTH (AUM). The amount of forage necessary for the sustenance of one cow or its equivalent for 1 month.

AREA OF CRITICAL ENVIRONMENTAL CONCERN. An area within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife or natural systems or processes, or to protect life and safety from natural hazards.

BASALT. A fine-grained igneous rock dominated by dark colored minerals, consisting of over 50 percent plagioclase feldspars and the remainder ferromagnesian silicates.

CARRYING CAPACITY (RECREATION). The maximum number of people at one time that an area or facility can accommodate without impairing the natural, cultural, or developed resource.

CLIMAX VEGETATION. The final vegetation community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces.

COLLUVIAL SLOPES. Mixed deposits of soil material and rock fragments accumulated near the base of steep slopes through soil creep, landslides, and local surface runoff.

CONTACT SPRING. A spring where water surfaces at the contact between two different geologic formations.

CULTURAL RESOURCES. Those fragile and nonrenewable remains of human activities, occupations, and endeavors as reflected in sites, buildings, structures, or objects, including works of art, architecture, and engineering. Cultural resources are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.

DRIFT FENCE. An open-ended fence used to retard or alter the natural movement of livestock, generally used in connection with natural barriers (Range Term Glossary Committee, 1974).

ENDANGERED ANIMAL SPECIES. Any animal species in danger of extinction throughout all or a significant portion of its range. This definition excludes species of insects that the Secretary of the Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to man. See Threatened Animal Species.

ENDANGERED PLANT SPECIES. Species of plants in danger of extinction throughout all or a significant portion of their ranges. Existence may be endangered because of the destruction, drastic change, or severe curtailment of habitat, or because of overexploitation, disease, predation, or even unknown reasons. Plant taxa from very limited areas, e.g., the type localities only, or from restricted fragile habitats usually are considered endangered. See Threatened and Sensitive Plant Species.

EPHEMERAL STREAM. A stream that flows only briefly after a storm or during snowmelt. See Perennial Stream.

HABITAT. A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

HERBACEOUS. Pertaining to plants having little or no woody tissue.

HORIZON. The geological deposit of a particular time, usually identified by distinctive fossils.

IGNEOUS. Rock of interlocking minerals formed by the cooling and solidification of magma.

INTRUSION (VISUAL). A land, vegetation, or structural feature that is generally considered out of context with the characteristic landscape.

LOAM. A soil texture class consisting of soil that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.

LODE CLAIMS. Mining claims of veins or deposits of quartz or other rock in place (bedrock).

MANAGEMENT FRAMEWORK PLAN (MFP). A land use plan for public lands that provides a set of goals and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.

MESOZOIC ERA. Era of geologic history extending from the start of the Triassic period (230 million years ago) to the end of the Cretaceous period (70 million years ago).

MINERALIZATION. The processes taking place in the earth's crust resulting in the formation of valuable minerals or ore bodies.

MINERALIZED AREA. A land unit capable of beneficial use and development for mineral production within a reasonable future period.

MONOCLINE. Rock layers that dip for an indefinite or unknown length in one direction.

NATIONAL REGISTER OF HISTORIC PLACES. A list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture maintained by the Secretary of the Interior.

OFF-ROAD VEHICLE (ORV). Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain, excluding (a) any registered motorboat, (b) any fire, military, emergency, or law enforcement vehicle when used for emergencies and any combat or combat support vehicle when used for national defense, and (c) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

PALEOZOIC ERA. An era of geologic history extending from the start of the Cambrian period (620 million years ago) to the end of the Permian period (230 million years ago).

PEGMATITES. A coarse variety of granite occurring in dikes or veins.

PERENNIAL STREAM. A stream that flows throughout the year.

PERMEABILITY, SOIL. The capacity of liquids, gasses, or plant roots to penetrate soil.

PETROGLYPH. An art figure or symbol cut, carved, or pecked into a stone surface.

PRIMITIVE AREA. A natural, wild, and undeveloped area, essentially removed from the effects of civilization.

PROFILE, SOIL. A vertical section of the soil from the surface through all of its layers, including the parent material.

PUBLIC LAND. Formal name for lands administered by the Bureau of Land Management.

PROSPECT. A mineral property whose value has not been proved by exploration.

RAPTORS. Birds of prey.

RIPARIAN. Situated on or pertaining to the bank of a river, stream or other body of water. Normally used to refer to the plants of all types that grow along streams or around springs.

ROADLESS. The absence of roads that have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

SCHIST. Any of various medium- to coarse-grained metamorphic rocks composed of laminated, often flaky, parallel layers of chiefly micaceous minerals.

SEGREATION. Any action such as a withdrawal or allowed application (exchange) that suspends the operation of the general public land laws. To separate or set apart; to remove lands from the operation of part or all the public land mineral laws.

SENSITIVE PLANT SPECIES. Plants whose populations are consistently small and widely dispersed or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction. Sensitive plants also include species rare in one locality (such as in Arizona) but abundant elsewhere. See Endangered Plant Species and Threatened Plant Species.

SITE (Archaeological). A physical location where human activities or events occurred.

SUCCESSION. The orderly process by which plant communities develop toward the climax plant association.

SUPPLEMENTAL VALUES. Resources not required for an area to be designated a wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecological, geologic, and other features of scientific, educational, scenic, or historical value.

THREATENED ANIMAL SPECIES. Any animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered Animal Species.

THREATENED PLANT SPECIES. Species of plants that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges, including species categorized as rare, very rare, or depleted. See Endangered Plant and Sensitive Plant Species.

TOTAL DISSOLVED SOLIDS (TDS). Salt—an aggregate of carbonates, bicarbonates, chlorides, sulfates, phosphates, and nitrates of calcium, magnesium, manganese, sodium, potassium, and other cations that form salts. High TDS solutions can change the chemical nature of water. High TDS concentrations exert varying degrees of osmotic pressures and often become lethal to life in an aquatic environment.

TRAILHEAD. The terminus of a hiking or horse trail, accessible by motor vehicle and sometimes having parking, signs, a visitor register, and camping and sanitary facilities.

UNIT RESOURCE ANALYSIS (URA). A comprehensive display of physical resource data and an analysis of the current use, production, condition, and trend of the resources and the potentials and opportunities within a planning unit, including a profile of ecological values.

VANADIUM. A metallic element used to form alloys.

VIABILITY. The capability of a seed, spore, egg, or other organ of a plant or animal to continue or resume growth when it is exposed to favorable environmental conditions (Hanson, 1962).

VISITOR DAY. 12 visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more people.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. Classification containing specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.

WILDERNESS CHARACTERISTICS. Key characteristics of a wilderness listed in section 2(c) of the Wilderness Act of 1964 and used by BLM in its wilderness inventory. These characteristics include size, naturalness, opportunities for solitude, opportunities for primitive or unconfined recreation, supplemental values, and the possibility of an area returning to a natural condition. The

BLM State Director considers BLM wilderness inventory results and public comments before issuing a formal decision on whether public land has wilderness character. Lands next to Paria Canyon Primitive Area in Utah have had a formal decision issued determining their wilderness character. The Arizona State Director has not issued a decision on the wilderness character of public land next to Paria Canyon Primitive Area in Arizona, and thus such lands are considered only to appear to have wilderness character.

WILDERNESS INSTANT STUDY AREA. BLM primitive and natural areas designated before November 1, 1975.

WILDERNESS REVIEW. The entire inventory, study, and reporting phases of the BLM's wilderness program.

WILDERNESS STUDY AREA. Areas determined through BLM's wilderness inventory to meet the definition of wilderness established by Congress.

WITHDRAWAL. An action that restricts the use of public land and segregates the lands from some or all of the public land or mineral laws.

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# SUITABILITY REPORT
# FOR
# ARIZONA STRIP WILDERNESS

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

# WILDERNESS REPORT

## Paiute Primitive Area
## Paria Canyon Primitive Area
## Vermillion Cliffs Natural Area

April 1980

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# WILDERNESS SUITABILITY RECOMMENDATION

The Bureau of Land Management (BLM) recommends that Congress incorporate the following areas into the National Wilderness Preservation System: Paiute Primitive Area, Paria Canyon Primitive Area, part of the Vermillion Cliffs Natural Area, and certain public lands next to Paria Canyon Primitive Area that have been found to have wilderness character in Utah or appear to have wilderness character in Arizona. (See Wilderness Character in draft EIS glossary.)

Paiute Primitive Area has exceptional biological and topographic diversity. A Mohave Desert community occurs in the lower slopes and canyons, and 5,700 feet higher, ponderosa pine and white fir grow near the crest of the Virgin Mountains. The area offers spectacular views and superb opportunities for recreation. Moreover, it has received national attention as the site of a recent transplant of desert bighorn sheep into their historic range.

Paria Canyon Primitive Area is an exceptionally beautiful area, highlighted by an 1,100-foot deep, narrow and sinuous canyon slicing through 35 million years of geologic history and displaying a variety of colors, textures, and erosional patterns.

Equally spectacular is the scenery near the upper rim of the Buckskin Gulch portion of the canyon system, especially the Coyote Buttes region, where geological and biological oddities are numerous. Massive sandstone has been sculptured by wind and water into a concentration of natural arches, bridges, contorted formations, a huge half dome, amphitheaters, pristine sand dunes, and towering cliffs. Seeps and springs feed ephemeral and permanent ponds, supporting wildlife and pockets of ponderosa pine. Ponderosa pine occurrence is unusual in such a desert environment and so distant from other stands.

The Vermillion Cliffs Natural Area provides some of the most spectacular vistas on the Arizona Strip. From the rim of the area's 3,000-foot high cliffs one can see landmarks up to 200 miles apart. Thousands of people view the cliffs annually from US Highway 89A, and many have commented on their grandeur and beauty. Their ruggedness and unusual rock formations provide outstanding opportunities for separating oneself from human influences and rigorously challenge those attempting to cross the badlands, canyons, and ridges at their base. A pocket of ponderosa pine on the rim, 25 miles from the closest similar stand, forms part of the habitat for mountain lion and deer. Eagles and hawks are often seen overhead.

The plains in the western portions of the natural area lack the high quality wilderness values of the cliffs to the east, and BLM recommends that they remain as a natural area rather than become part of a wilderness.

The recommended areas meet the criteria of section 2(c) of the Wilderness Act of 1964, and multiple-use resource analysis revealed that a wilderness designation would cause no significant resource use conflicts.

BLM has analyzed the data in its land use planning system and the draft EIS and recommends a combination of alternatives 1 and 2 as the best choice for preserving the area's wilderness character. BLM recommends that with minor boundary changes, Paiute Primitive Area, amounting to 34,922 acres, be designated Paiute Wilderness Area. It also recommends that 22,285 acres of the Vermillion Cliffs Natural Area, and 46,344 acres of contiguous lands in Utah and Arizona, including the Coyote Buttes area of the Paria Plateau, be designated Paria Wilderness Area. The remainder of Vermillion Cliffs Natural Area would retain its natural area status, and that portion of Paria Primitive Area north of the powerline rights-of-way would remain under the present withdrawals. Neither area would undergo change in management.

BLM further recommends that Congress recognize existing water rights for springs at the base of the Vermillion Cliffs portion of the proposed Paria Wilderness Area and authorize the owners of these rights to use motor vehicles to maintain pipelines. To protect wilderness values, the authorized BLM officer will strictly control this use.

In addition, BLM considers continued livestock grazing in these areas to be in the public interest. Proper management, including grazing systems and associated livestock developments and wildlife habitat improvements, is appropriate to maintain and enhance the areas' plant and animal communities. Improvements will be developed and maintained through customary, environmentally sound methods as determined by the District Manager.

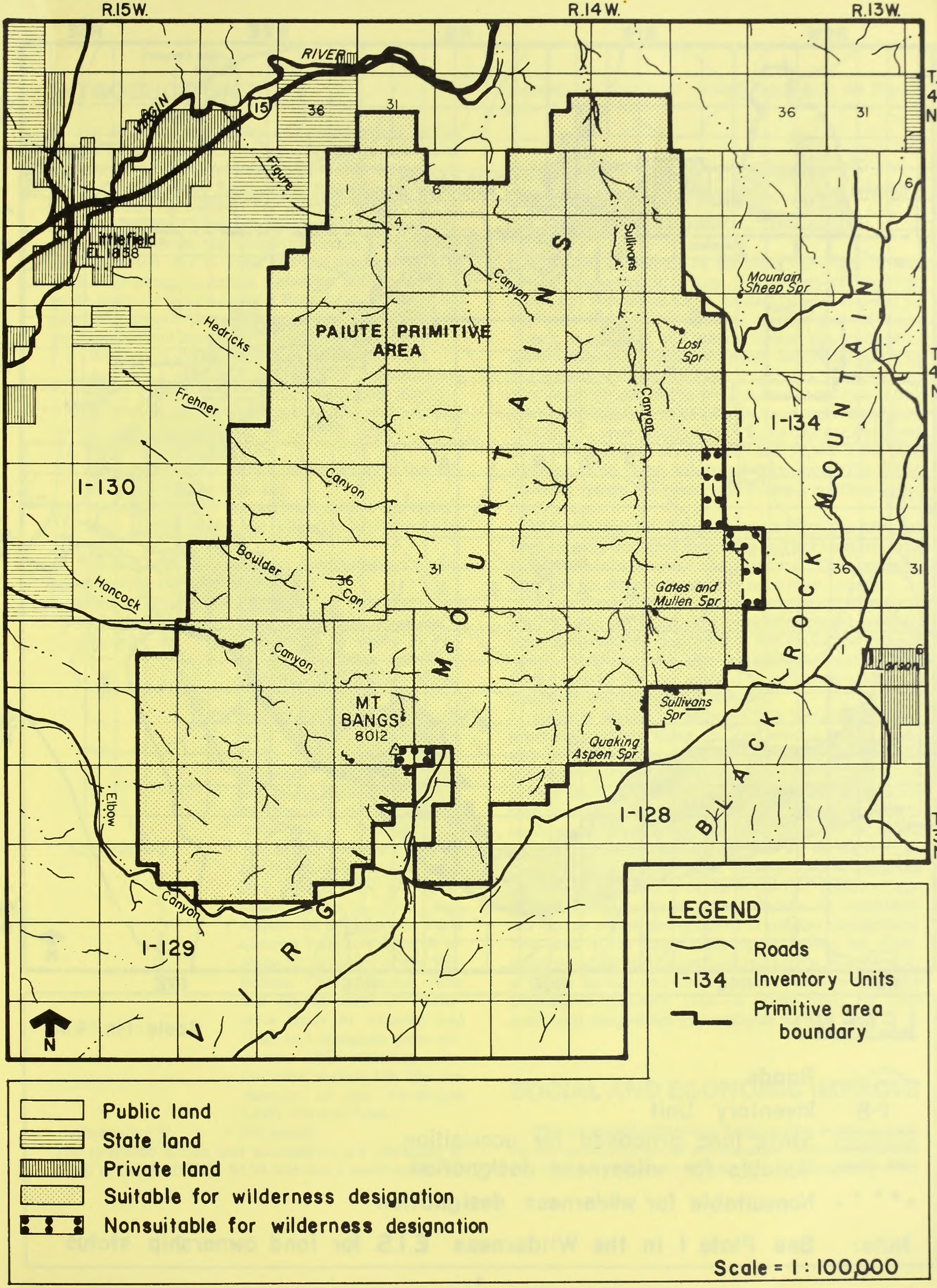
Recommendation Billy R. Templeton
District Manager, Arizona Strip

M. S. Jensen
District Manager, Cedar City
(for Utah portion of Paria Wilderness proposal)

Approved Clair M. Whitlock
State Director, Arizona

Approved Gary J. Wicks
State Director, Utah
(for Utah portion of Paria Wilderness proposal)

Approved____________________
Director


R.15W.
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T. 39 N.
RIVER
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Figure
Littlefield
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Sullivans
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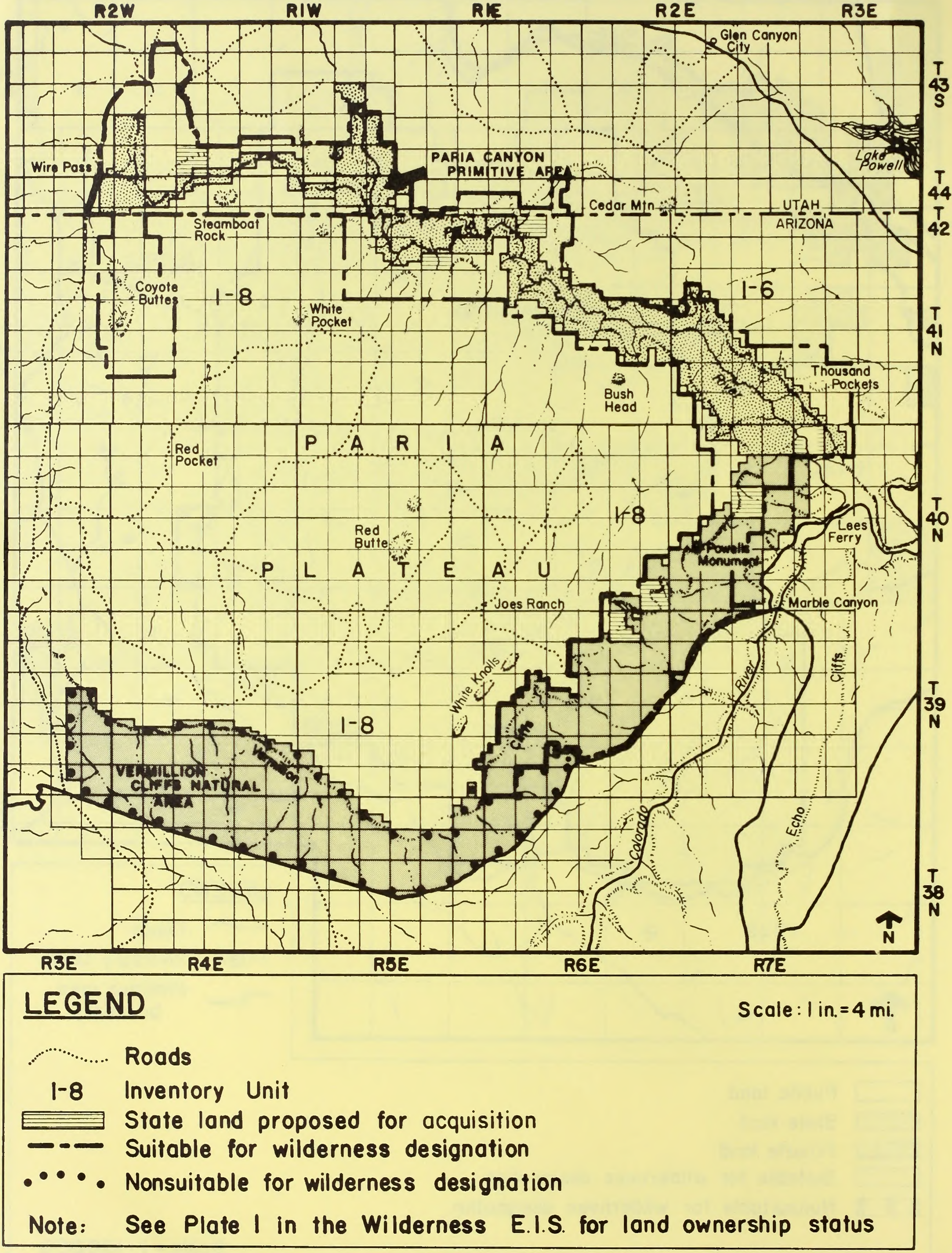
PAIUTE PRIMITIVE AREA
Lost Spr
Canyon
Frehner
1-134
1-130
Canyon
Boulder
36
Can
31
36
31
Hancock
Gates and Mullen Spr
Canyon
1
6
1
6
Carson
MT BANGS 8012
Sullivans Spr
Quaking Aspen Spr
1-128
BLACK ROCK MOUNTAIN
Elbow
Canyon
VIRGIN
1-129
N
LEGEND
Roads
1-134 Inventory Units
Primitive area boundary
Public land
State land
Private land
Suitable for wilderness designation
Nonsuitable for wilderness designation
Scale = 1 : 100,000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T 39 N
T 38 N
R3E
R4E
R5E
R6E
R7E
Glen Canyon City
Lake Powell
Wire Pass
PARIA CANYON PRIMITIVE AREA
Cedar Mtn
UTAH
ARIZONA
Steamboat Rock
Coyote Buttes
I-8
White Pocket
I-6
Bush Head
Thousand Pockets
River
Red Pocket
PARIA PLATEAU
Red Butte
I-8
Powells Monument
Lees Ferry
Joes Ranch
Marble Canyon
White Knolls
Cliffs
River
Cliffs
I-8
VERMILLION CLIFFS NATURAL AREA
Vermilion
Colorado
Echo
N
LEGEND
Scale: 1 in. = 4 mi.
Roads
I-8 Inventory Unit
State land proposed for acquisition
Suitable for wilderness designation
Nonsuitable for wilderness designation
Note: See Plate I in the Wilderness E.I.S. for land ownership status

## INTRODUCTION

The Federal Land Policy and Management Act of 1976 (FLPMA) requires the Secretary of the Interior to recommend to the President the suitability or nonsuitability of designating Paiute and Paria Canyon Primitive Areas and Vermillion Cliffs Natural Area to the National Wilderness Preservation System. The recommendations result from the review procedure described in the Wilderness Act of 1964 and the preparation of a draft environmental impact statement (EIS) according to the National Environmental Policy Act of 1969. This suitablity report presents the wilderness suitability recommendation and summaries of the following:

1. Wilderness characteristics of the study areas;
2. Analysis, rationale, and resource commitments made through BLM's land use planning system;
3. Economic and social impacts of the proposal and alternatives considered in the draft EIS;
4. Significant resource data;
5. Opportunities for public participation in the wilderness study process; and
6. BLM's wilderness management actions and techniques to implement the wilderness recommendations.

The draft EIS on wilderness status analyzes a proposed action and three alternatives:

Proposed Action:
- Designate as wilderness all three study areas.

Alternative 1:
- Adjust the boundary of Paiute Primitive Area and designate 34,922 acres as wilderness;
- Add 22,285 acres in the northeast portion of Vermillion Cliffs Natural Area to the proposed Paria Wilderness and retain natural area status for the rest of the natural area.

Alternative 2:
- Adjust the boundary of Paiute Primitive Area and designate 34,922 acres as wilderness;
- Adjust the boundary of Paria Canyon Primitive Area to include 22,285 acres of the Vermillion Cliffs Natural Area and 46,344 acres of contiguous lands in Arizona and Utah and designate them wilderness while retaining natural area status for the remainder of the Vermillion Cliffs Natural Area.

Alternative 3:
- No action.

The proposed action and alternatives are discussed in detail in the draft EIS. BLM selected a combination of alternatives 1 and 2 for recommendation to the President.

## SUMMARY OF WILDERNESS CHARACTERISTICS DETERMINATION

BLM has completed an intensive wilderness inventory of Paiute Primitive Area, Paria Canyon Primitive Area, and Vermillion Cliffs Natural Area as directed by FLPMA. Limitations imposed by the lack of time, money, manpower, and other priorities caused BLM to defer wilderness inventory of public lands contiguous to Paria Canyon Primitive Area in Arizona. Initial inventory findings and intensive inventory fieldwork, however, indicated that much of these lands have wilderness character. Lands contiguous to Paria Canyon Primitive Area in Utah were inventoried, and 12,944 acres were determined to have wilderness character. The BLM planning system has considered resource conflicts in the study areas.

An area near Mt. Bangs in Paiute Primitive Area has been severely impacted by mining and has been removed from further wilderness consideration. This primitive area has no other substantially noticeable impacts.

Paria Canyon Primitive Area contains few impacts from human activities, and most impacts are substantially unnoticeable except for a jeep trail that extends nearly ½ mile into the area and parallels the north rim of the canyon for 1¼ miles. The proposed wilderness boundary will exclude the jeep trail.

Impacts within Vermillion Cliffs Natural Area are generally scattered along the level areas near US Highway 89A. The plains along the highway on the west end contain some range improvements on public, State, and private lands. In addition, pipelines and jeep trails extend from Soap, Badger, and Lowrey Springs to private lands along the highway. Sunshine Mine and its access road are located in Sections 6, 7, 8 T. 38 N., R. 6 E. Cumulative impacts of these intrusions do not degrade the overall naturalness of the area. The quality of opportunities for solitude varies but must be considered fair on the plains and excellent in rougher topography. The area offers outstanding opportunities for diversified primitive and unconfined recreation. Supplemental values include two historic trails, one of which—the Dominguez-Escalante Trail—is under study for congressional designation as a national historic trail.

## SOCIAL AND ECONOMIC IMPACTS

The proposed wilderness designations would not adversely impact the social environment. Many individuals and interest groups would benefit psychologically from the knowledge that these areas are being preserved as wilderness.

Two potentially adverse economic impacts have been identified. Some groups feel that air quality restrictions might limit future industrial growth. Wilderness designation, however, will not automatically change air quality classes. The Department of the Interior can make recommendations, but the authority for air quality reclassification rests with the State governor.

The same groups believe that wilderness designation would increase tourism without increasing financial benefits, since they feel that backpackers are not big spenders. Nevertheless, the expected increase in visitor use would provide some economic benefit.

Wilderness designation would regulate any further water development and mineral exploration and production incompatible with the preservation of wilderness. No known economical mineral deposits, however, occur in any of the proposed wilderness areas.

Wilderness designation is not expected to impact livestock grazing, since none of the existing livestock improvements require vehicular access. A wilderness designation would not change livestock numbers. If grazing management systems require that livestock improvements be placed within the proposed wilderness areas, those improvements will be constructed.

## ANALYSIS OF LONG- AND SHORT-TERM EFFECTS

The proposed wilderness designations would involve no losses to long-term productivity but would tend to maintain long-term productivity and provide maximum protection for each study area. No nonconforming uses or management practices within the recommended areas would need correcting before designation.

The following uses are presumed to be incompatible with wilderness designation:

- -Sale or exchange of public land
- -New mineral entry and mining after December 31, 1983 on areas now open to exploration and mining
- -Agricultural entry
- -Use of motorized vehicles
- -Road construction
- -Vegetation manipulation
- -Construction of structures other than those needed for visitor safety

The following uses are presumed to be compatible with wilderness designation:

- -Livestock grazing
- -Hunting
- -Rock collecting
- -Horseback riding
- -Maintenance of livestock and wildlife improvements under appropriate controls
- -Wildlife reintroductions
- -Fire management under current approved fire management plans
- -Photography
- -Hiking
- -Backpacking
- -Sightseeing
- -Rock climbing
- -Mineral entry and development of valid claims as provided in the Wilderness Act of 1964
- -Emergency search and rescue

## OPTIONS FORGONE IF RECOMMENDATIONS ARE ADOPTED

Wilderness designation represents a long-term though not necessarily permanent commitment of land and resources, since Congress retains the authority to change the designation. Generally the main options forgone through designation are road construction, vegetation manipulation by mechanical means, and mineral exploration and development that would adversely impact wilderness resources.

At this writing, no economically recoverable mineral deposits are known to exist in areas proposed as wilderness. The Secretary of the Interior, however, has directed the Geological Survey and the Bureau of Mines to conduct a survey on a planned recurring basis consistent with the concept of wilderness preservation to determine the presence of economically recoverable minerals. In June 1980 these agencies will publish a mineral study that will provide more definitive information on the presence and economics of minerals in the study areas.

Land use plans have been considered during formulation of the wilderness proposals. These plans relate wilderness values and recommendations to other resources to determine their compatibility. Wilderness proposals generally are supported by other resource proposals, since they tend to enhance and protect other values. The proposals that most often conflict with wilderness recommendations are mineral related. The decision to allow greater emphasis on wilderness rather than mineral values was based on current information that no known economically recoverable minerals exist in the proposed areas. Should Congress designate the proposed Paria Wilderness Area, those areas designated will be eliminated from availability for the Navajo land selection. (See draft EIS, section 1, Interrelationships.)

## RECOMMENDATION AND STUDY AREA SUMMARY

FLPMA and the Wilderness Act call for public participation and BLM's considering other resources when recommending public land for wilderness designation. BLM contacted State and local government agencies and other interested groups and individuals about the proposed designations, informing them of the factors considered before making the recommendations.

This analysis established a basis for resource recommendations. These recommendations were then compared to resolve competing use problems in resource allocation. The recommendation to designate as wilderness Paiute Primitive Area, Paria Canyon Primitive Area, and part of Vermillion Cliffs Natural Area did not significantly conflict with other resources. Lifestock grazing can continue as in the past.

The result of the study process was a decision to propose wilderness designation as follows: **Paiute Primitive Area** - adjust the proposed wilderness boundary to exclude significant mining impacts near Mt. Bangs and to follow the rim of Sullivans Canyon on the east. A total of 34,922 acres would be designated as wilderness. **Paria Canyon Primitive Area** - Adjust the proposed wilderness boundary to include the upper rim of the Paria Canyon in Arizona and contiguous lands having wilderness character in Utah. A total of 73,294 acres would be designated wilderness. **Vermillion Cliffs Natural Area** - Transfer to Paria Canyon Primitive Area 22,285 acres in the northeast end of the Vermillion Cliffs, beginning with Sections 28, 20, and 30, T. 39 N. R. 6 E., and the SE Section 25 T. 39 N. R. 5 E. The Vermillion Cliffs west of the boundary line would remain a natural area.

Management objectives for the areas include the following:

**Paiute Primitive Area**:

1. Close to motorized vehicles and equipment.
2. Withdraw from mineral entry and leasing laws after December 31, 1983.
3. Develop fire management plan consistent with protection of wilderness values.
4. Provide pipelines to allow livestock and wildlife to water away from springs and to protect springs from trampling and pollution.
5. Physically block vehicular access to areas where such access may be possible.
6. Install trailhead management facilities.
7. Construct a footbridge across the Virgin River near the Virgin River Campground to provide year-round access to the south side of the river.
8. Develop a user inventory to determine visitor use limits.
9. Develop an unobtrusive trail-marking system for visitor safety.

**Paria Canyon Primitive Area**:

1. Acquire nine State-owned parcels of land totalling 2,478 acres next to and within the proposed wilderness.
2. Revise activity management plan.
3. Develop public information materials.
4. Remove litter.
5. Close to motorized vehicles and equipment.
6. Develop user inventory to determine visitor use limits.

**Vermillion Cliffs Natural Area**:

1. Acquire four parcels of State-owned lands totalling 1,766 acres within and next to the natural area.
2. Develop user inventory to determine visitor use limits.
3. Develop activity management plan.
4. Develop public information materials.
5. Remove litter.
6. Protect the natural area from scenic intrusion.
7. Construct or mark trails for visitor access and safety.
8. Change boundary to exclude lands administered by the National Park Service.

Preservation of identified wilderness characteristics will continue through existing policies and objectives, including an interim management policy for recommended contiguous lands.

## BACKGROUND INFORMATION

The Paiute Primitive Area was designated in the Federal Register, Volume 40, No. 187, September 15, 1975. The designated area includes 35,092 acres of public lands. The area was closed to ORV use, but was not withdrawn from mineral entry. Livestock grazing has continued. Although some local ranching and mining interests opposed designation, public comments received before designation expressed widespread support. After designation BLM developed and implemented a management plan for the area.

On January 10, 1969, the Secretary of the Interior designated approximately 27,515 acres of public land in Paria Canyon, Arizona and Utah as Paria Canyon Primitive Area. The lands were withdrawn from disposal and appropriation under the mining laws. Livestock grazing has continued. The designation resulted from a BLM proposal supported in Arizona and nationally. Public meetings were held in Phoenix and Fredonia, Arizona. Four speakers opposed the proposal. The Arizona Strip, Arizona and Cedar City, Utah BLM District offices cooperated in drafting a management plan for the area.

The Secretary of the Interior designated the Vermillion Cliffs Natural Area on January 10, 1969, segregating the area from disposal and appropriation under the mining laws but allowing livestock grazing to continue. The designated area includes 50,135 acres of public land. Public meetings were held in conjunction with those held for Paria Canyon Primitive Area at which two speakers opposed this proposal.

As established in 1972, Glen Canyon National Recreation Area (NRA) included 3,040 acres of the previously designated Vermillion Cliffs Natural Area. The National Park Service (NPS) has drafted a wilderness recommendation for the NRA, including the 3,040 acres from the natural area and 480 acres that NPS administers next to Paria Canyon Primitive Area.

BLM has accelerated its intensive inventory of Paiute Primitive Area, which has found 14,390 acres in two contiguous inventory units to have enough wilderness character to be proposed as wilderness study areas.

A total of 12,944 acres of public lands next to the Utah portion of Paria Canyon Primitive Area has been found to have wilderness characteristics. Although public land next to Paria Canyon Primitive Area in Arizona has not been intensively inventoried, field examination shows that large portions of two wilderness inventory units, amounting to 152,087 acres, contain enough wilderness character for further consideration in the wilderness review. One inventory unit is contiguous to both Paria Canyon Primitive Area and Vermillion Cliffs Natural Area. The other unit is contiguous to Paria Canyon Primitive Area and to public lands in Utah. By October 1980 BLM will decide how much land will be included in further wilderness study.

The closest designated wilderness to either of the proposed wilderness areas is Sycamore Canyon Wilderness, south of Flagstaff, Arizona.

## SIGNIFICANT RESOURCE DATA FOR PROPOSED WILDERNESS AREAS

### Paiute Primitive Area

Paiute Primitive Area offers a high degree of solitude and isolation. Although three roads pass near its boundaries, they are seldom traveled, used only seasonally by light trucks, and are not recommended for passenger cars. ORV use is not possible in most of the area because of rough topography. Other access in the area is generally limited to drainages.

Until a recent desert bighorn sheep transplant, Paiute Primitive Area received little publicity. Visitor use, light because of the area's inaccessibility and anonymity, concentrates around Mt. Bangs and within Sullivans Canyon. No user facilities have been constructed, although some trails were built to improve livestock access within the area.

On the boundary between the Colorado Plateau and the Basin and Range physiographical provinces, Paiute Primitive Area has a 5,600-foot range in elevation. The area's canyons, cliffs, and steep ridges provide habitat for a large variety of vegetation and wildlife, life zones ranging from the Upper Sonoran through the transition to the Canadian Zone. Threatened, endangered, or sensitive species include three plants (table 3-1, draft EIS) and two animals (table 3-2, draft EIS).

A partial archaeological survey of the area found a Clovis point (10,000 B.C.) and other more recent artifacts of potential significance.

### Paria Canyon Primitive Area

Paria Canyon Primitive Area offers exceptional opportunities for experiencing peace, solitude, and beauty. Roads provide access to all three trailheads, the nearest being a mile from the primitive area boundary. Good trails lead through the main canyon and Wrather Canyon, but none have been established in the other side canyons. An Indian trail from the river to the Paria Plateau was found recently during a field inventory. The area's only user facilities area at the upper trailhead of the main canyon.

Few visitors use the rim portion of the primitive area, which also has significant attractions described in the draft EIS. Access is limited along the south rim but is good along the north boundary of the proposed wilderness area.

Six threatened or sensitive plants occur in the area (table 3-1, draft EIS) as do three threatened or endangered animals (table 3-2, draft EIS).

An archaeological survey of the lower canyon found several sites. The wilderness inventory found additional sites along the canyon rim.

### Vermillion Cliffs Natural Area

The Vermillion Cliffs are viewed by all who travel US 89A from Marble Canyon to Jacob Lake. The rough topography at the base of the cliffs provides outstanding opportunities for recreation. Additionally, two historic trails pass through the natural area: the Honeymoon Trail and the Dominguez-Escalante Trail, which is being considered for designation as a national historic trail. The natural area's single visitor facility, an interpretive site with a picnic table, is outside the area recommended for wilderness designation.

Ten endangered, threatened, or sensitive plant species grow in the area (table 3-1, draft EIS) and one threatened animal—the spotted bat—occurs there. Numerous sightings of eagles have also been reported in the area.

Little archaeological research has been conducted in the natural area, but the wilderness inventory has located sites indicating substantial Indian use of the area.

## SUMMARY OF PUBLIC PARTICIPATION

BLM has provided numerous opportunities for the public to contribute to wilderness recommendations. A Federal Register notice issued April 17, 1979 presented tentative alternatives to be discussed in the EIS. Another notice issued on May 29, 179, announced a 45-day period to receive public comments on land use planning recommendations to be considered in the EIS. A series of meetings in four locations—Phoenix, Flagstaff, and Page, Arizona and St. George, Utah—began on June 6, 1979 to provide a forum for public opinion and to receive comments on the scope and significant issues to be analyzed in the EIS.

Public comments are accepted on an ongoing basis. Issues identified by the public have been discussed in the

Scoping section of the draft EIS. Other comments received have generally supported wilderness designation. Comments against wilderness have focused on concern that multiple use of the land continue, especially livestock grazing. The public has also expressed considerable sentiment against governmental control. The permanent documentation file contains all correspondence received concerning these proposed wilderness areas.

## SPECIAL LEGISLATION

To eliminate potential conflict with State management goals, BLM should acquire State lands within the proposed wilderness area boundary. BLM might acquire this land by exchange, or a congressional appropriation might be necessary for its purchase.

Under Public Law 93-531 (Navajo Land Selection), the Navajo Indian Tribe has applied for some of the lands that are proposed for the Paria Wilderness Area. (See draft EIS section 1, Interrelationships.) Legislation may be necessary to exclude lands with wilderness values from selection. Passage and implementation of Congressman Udall's bill, H.R. 5262, would resolve this issue, however, by prohibiting selection west of the Colorado River. Since the land selection is currently pending, timely congressional action on the wilderness proposal is needed to enable a decision to be made on the application.

# STATISTICAL SUMMARY
# PARIA CANYON PRIMITIVE AREA

## COCONINO COUNTY, ARIZONA
## ARIZONA STRIP DISTRICT

## KANE COUNTY, UTAH
## CEDAR CITY DISTRICT

| | Previously Designated Area | Contiguous Public Lands* | Total |
|---|---|---|---|
| **Acres without wilderness characteristics** | | | |
| Arizona | — | * | — |
| Utah | — | 23,369 | 23,369 |
| **Acres with wilderness characteristics** | | | |
| Recommended for Designation | | | |
| Arizona | 18,610 | 33,787 | 52,397 |
| Utah | 8,340 | 12,557 | 20,897 |
| Recommended against Designation | | | |
| Arizona | 245 | * | 245 |
| Utah | 320 | 387 | 707 |
| **Ownership in area recommended for wilderness, February 27, 1980** | | | |
| BLM | 74,001 | — | 74,001 |
| State | 1,718 | — | 1,718 |
| Private | 0 | — | 0 |

*Contiguous lands intensive inventory has not been completed to formally determine wilderness characteristics.

# STATISTICAL SUMMARY VERMILLION CLIFFS NATURAL AREA

## COCONINO COUNTY, ARIZONA
## ARIZONA STRIP DISTRICT

| | Previously Designated Area | Contiguous Public Lands* | Total |
|---|---|---|---|
| **Acres without wilderness characteristics** | — | * | — |
| **Acres with wilderness characteristics** | | | |
| Recommended for Designation | 22,285 | * | 22,285 |
| Recommended against Designation | 27,850 | * | 27,850 |
| **Ownership in area recommended for wilderness, February 27, 1980.** | | | |
| BLM | 22,285 | — | 22,285 |
| State | 1,760 | — | 1,760 |
| Private | 0 | — | 0 |

*Contiguous lands intensive inventory has not been completed to formally determine wilderness characteristics.

# STATISTICAL SUMMARY PAIUTE PRIMITIVE AREA

## MOHAVE COUNTY, ARIZONA
## ARIZONA STRIP DISTRICT

| | Previously Designated Area | Contiguous Public Lands* | Total |
|---|---|---|---|
| **Acres without wilderness characteristics** | 90 | 39,195* | 39,285 |
| **Acres with wilderness characteristics** | | | |
| Recommended for Designation | 34,682 | 240 | 34,922 |
| Recommended against Designation | 320 | * | 320 |
| **Ownership in area recommended for wilderness, February 27, 1980.** | | | |
| BLM | — | 34,922 | 34,922 |

*Contiguous lands study were not considered in the EIS. On February 22, 1980, the Arizona State Director issued a decision stating 14,290 acres of contiguous lands are wilderness in character.

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DSC 1279-3c (May 1981)

## LEGEND

### MAP SYMBOLS

| | |
|---|---|
| ▵ | UNPATENTED MINING CLAIM |
| 36 | SECTION IDENTIFICATION |
| — · · — | STATE BOUNDARY |
| — · — | COUNTY BOUNDARY |
| — · — | MISCELLANEOUS (PARKS, RES., ETC.) |
| ☐ | U.S. ROUTE MARKER |
| ○ | STATE ROUTE MARKER |
| — | PAVED HIGHWAY |
| — | ALL-WEATHER ROAD |
| - - - | SEASONAL USE OR JEEP TRAIL |
| ▨ ○ | CITY OR TOWN |
| ✧ | PEAK OR MOUNTAIN |
| ⁓ | PROMINENT RIDGE |
| ◡ | WATER DEVELOPMENT |
| G | CORRAL |
| — P — | POWER LINE |
| △ | PATENTED MINING CLAIM |

### LAND STATUS

| | |
|---|---|
| 🟨 | PUBLIC LANDS |
| 🟩 | NATIONAL FOREST |
| ▨ | NATIONAL PARK, MONUMENT, AND RECREATION AREAS |
| 🟧 | INDIAN RESERVATIONS |
| 🟦 | STATE LANDS |
| ☐ | PATENTED LANDS |

### E.I.S. BOUNDARIES

| | |
|---|---|
| ━ | PROPOSED ACTION AND ALTERNATIVE THREE |
| — | ALTERNATIVE ONE |
| — | ALTERNATIVE TWO |

BASE MAP COMPILED FROM ONE OR MORE
OF THESE SOURCES: RECENT MAPS PUBLISHED
BY THE U.S.G.S., U.S.F.S., STATE HIGHWAY
DEPARTMENT, B.L.M. RECORDS, LOCAL MAPPING
SOURCES AND AERIAL PHOTOGRAPHY

# PLATE-1
# ARIZONA STRIP WILDERNESS
## ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

1980

1 1/2 0 1 2 3 4 5
SCALE IN MILES